THE STUDY OF STANARBUDA WITH SPECIAL REFERENCE TO FINE NEEDLE ASPIRATION CYTOLOGY IN BENIGN AND MALIGNANT TUMOURS.

A thesis submitted to

TILAK MAHARASHTRA VIDYAPEETH

PUNE

For the Degree of

DOCTOR OF PHILOSOPHY (Ph.D)

in

ROGNIDAN AVUM VIKRITIVIGYAN

Under the Board of Ayurvedic Studies

Submitted by

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Under the Guidance of

DR. VIDYA HIRLEKAR

September 2016

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CERTIFICATE

This is to certify that the thesis entitled **THE STUDY OF STANARBUDA WITH SPECIAL REFERENCE TO FINE NEEDLE ASPIRATION CYTOLOGY IN BENIGN AND MALIGNANT TUMOURS** which is being submitted herewith for the award of the Degree of Vidya Vachaspati (Ph.D.) in Rognidan avum Vikritivigyan under the Board of Ayurvedic studies of Tilak Maharashtra Vidyapeeth, Pune is the result of original research work completed by **Vd. Jyoti Vishnu Meghdambar** under my supervision and guidance. To the best of my knowledge and belief the work incorporated in this thesis has not formed the basis, for the award of any degree or similar title of this or any other university or examining body upon him.

Dr. Vidya Hirlekar

Research Guide

Pune

September 2016

To,
The Controller of Examinations,
Tilak Maharashtara Vidyapeeth,
Pune.

Subject: **Submission of Thesis for Ph.D. (Ayurveda2010-2011)**

Respected Sir,

I the undersigned have been enrolled under Faculty of Ayurveda, TMV, Pune for Ph.D. in Rognidan avum Vikritivigyan.

I am submitting my Thesis Titled **THE STUDY OF STANARBUDA WITH SPECIAL REFERENCE TO FINE NEEDLE ASPIRATION CYTOLOGY IN BENIGN AND MALIGNANT TUMOURS.**

Thanking you,

Yours, truely,

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Dr. Vidya Hirlekar.

ACKNOWLEDGEMENT

On the blissful and ecstatic moment of successful accomplishment of this dissertation, I would like to expresses my gratitude towards Lord Dhanwantari, without whose blessings nothing would be possible in this world. He always provides me knowledge, health, and strength to complete my work.

I extend my deep sense of gratitude to Honourable, Director, Prof. S.K. Sardeshmukh, B.S.D.T. ayurved college, and research centre, Wagholi, for his generous support in the beginning of my academic carrier and throughout my life.

I have no words, how to express my deep sense of gratitude to my respected perceptor and honourable Supervisior and Guide Dr. Mrs. Vidya Hirlekar, Professor and Head of the Department, Rognidan, Ayurved College, Wagholi, a provident academician and clinician, who took great efforts with patience in supervision of this work. Her parental and noble behaviour, affectionate care, are the main forces to my success.

No endeavour is complete without the support of life partner. It is beyond the reach of any language to favour and thank to my husband Dr. Vinayak Navanale, Associate Professor, Rognidan, Ayurved College, Dharwad, and Director of Unique genes biotech company, ,who shouldered my all responsibility efficiently during research work and being a good companion in real sense on the path of my life. He took great pains with patience while completion of my thesis work. His caring nature and moral support lighten up my life and shared on integral part of this research work.

I hereby express thankfulness to the Registrar and head of the P.G. Nanal department of Ayurveda, Dr. Abhijit Joshi whose constant encouragement, energy level and guidance inspired me a lot.

I am extremely grateful to Dr. Sathe, Dr. Dharmadhikari, Dr.Gayal and all the staff of Tilak Maharashtra University who advised and enlightened me all over the study.

My special thanks to Dr. Subhash Saley, Professor and Head of the Department, Rognidan, Government Ayurved College, Nanded, for the constant help,

firmly suggestions and valuable guidance, a bright source of inspiration, which helped me in all respect. His energetic motivations towards perfection in my profession.

I am also thankful to Dr. Abhijeet Joshi ,Registrar, and Head of the Department, Ayurved faculty, Tilak Maharashtra Vidyapeeth, for his genuine and timely suggestions and kind help.

I am also thankful to Dr. Dharmadhikari and Dr. Sawarikar for their suggestions and comments while completion of my research work.

I offer my sincere regards and thankfulness to Dr.Mrs. Muley Assosiate Poofesor, Pathology Department, Government Medical College, Nanded, for her kind help, and suggestions in the cytology lab, while completion of my research work. I express my gratitude to Dr. Hanmante, Assistant Professor, Pathology department, Government Medical College, Nanded, for his kind help, and suggestions in the cytology lab, while doing clinical research.

I feel pleasure to express my humble gratitude to my friends and colleagues Dr.Ujwala Pawar, Dr. Shipla Ingle, Dr. Sheetal Chavan, Dr. Krishna Kadam for their constant encouragement, affection, inspiration and moral support.

With great gratitude I take this opportunity to pay my heartful regards to my respected parents Mr. Vishnu Meghdambar, Mrs.Chndrabhaga Meghdambar, as well as Mr. Tatyaso Navanale, and Mrs.Vastla Navanale, for making my carrier and encouraging me to complete this research work.

I wish to make my special mention to my loving son, Mas. Parth Navanale,, who helped me by smiling and who always give love and relaxment during my research wotk.

I am also thankful to my loving neighbour Mr.Vittal Kunte, and Mrs.Jyoti Kunte, and Kalyani Kunte for their inspiration while doing my research work.

I wish to express my heartful gratitude to all those who have helped me in several ways in completing this work, last but not the least I am much obligued to my patients who formed the nucleus of this study for their cooperation.

CONTENTS

ABBREVIATIONS

1. Ayurvedic Literature

PREFIX	
A.S.	Ashtangsangraha
A.H.	Ashtanghridaya
B.P.	Bhavprakash
B.S.	Bhels amhita
B.R.	Bhaishajya Ratnavali
C.D.	Chakradatta
Ch.s.	Charak Samhita
Dal.	Dalhana
H.S.	Harit Samhita
Ka.S.	Kashyapa Samhita
M.N.	Madhavnidan
Sha.S.	Sharangdhar Samhita
Su.S.	Sushrut Samhita
Rig.	Rigveda
Y.R.	Yogratnakar
V.S.	Vangsena
SUFFIX	
Chi	Chikitsa sthana
Kh	Khanda
Ma.Kh.	Madhyama Khanda
Pu.Kh.	Purva Khanda
Ni.S.	Nidan Sthana
Su.S.	Sushrut Sthana
Sh.S.	Sharir Sthana
Utt.S.	Uttar Sthana
Vi.S.	Viman Sthana
V	Vata
P	Pitta
K	Kapha

MODERN LITERATURE

A.D.H.	Atypical ductal hyperplasia
A.H.	Atypical hyperplasia
A.L.H.	Atypical lobular hyperplasia
Abs.	Abscess
B/L	Bilateral
B.E.L.	Benign epithelial lesion
B.T.	Breast tumour
Br.Cy.	Breast cytology
B.I.R.G.	Breast imaging reference group
B.H.E.L.	Benign hyperplastic epithelial lesion
B.F.	Breast feeding
Cy.	Cyst
C.P.	Cystosarcoma phylloids
Cys.Les.	Cystic lesion
CA	Carcinoma
Cm	Centimeter
DPX	Dextrene polysterene zylene
DCIS	Ductal carcinoma in situ
Dys.B.E.L.	Dyysplasia with benign epithelial lesion
Du.Et.	Duct ectasia
E.R.	Estrogen receptor
Embr.	Embryology
Exc.	Excess
FNAC	Fine needle aspiration cytology
FNA	Fine needle aspiration
FA	Fibroadenoma
Fad	Fibroadenosis
F.D.B.	Fibrocystic disease of breast
Fi.Sa.	Fibrosarcoma
Gal.	Galactocoele
HECL	Hyperplastic epithelial cell lesion
His	Histology
Hyp	Hyperplasia
H/O	History of
H and E	Haematoxyline and Eosin
Hys.	Hysterectomy
IDC	Intraductal carcinoma
Inv.Ca.	Invasive carcinoma
Ir.mens.	Irregular menses.
IPD	Indoor patient department
ICL	Inflammatory cell lesion
Lt.	Left
Lip.	Lipoma
LIQ	Lower inner quadrant

LO	Loer outer
LA	Lactating adenoma
LH	Lower half
Met.ca.	Metastatic carcinoma
Mp	Menaupause
Con.	Contraceptive
Mis.	Miscarriage
Mm	Milimeter
Neo.Dys.	Neoplastic dysplasia
No.veg.	Non vegeterin
OPD	Out patient department
Q	Quadrant
Rt.	Right
S	Single
T	Tumour
U	Upper
UO	Upper outer
UI	Upper inner
W.B.	Whole breast
X	Xylene

INTRODUCTION

As we are living in a world of stress, strain and struggle the unhealthy lifestyle, developing as a new culture among people. Fast running life, changed dietary habits, inappropriate sleep, stressfull competition, increased workload are the main causes of various physical, mental, and psychosomatic disorders.

These facts reduces our potential, ultimately these things promoting to human for use of allopathic medicine which provides hazards for them. Ayurveda is such an eternal science where the assertive knowledge written in facts. Those fundamental facts are still applicable because of their scientific research not only to prove its truth but also to understand the fundamentals in better manners. Ayurveda is the science of knowledge with the history of origin of thousands of years. The concepts of origin of treatments, used now a days in modern medicine and other pathies are derived from Ayurvedic science with their modified facts. In short through update of original concepts of ayurveda quoted earlier by achryas, there is need of different types of research works to be carried out.

Regarding these things, author of present research work selected, to work on the concept of stanarbuda where very less literature is available in our samhita granthas. The seprate and complete disease named stanarbuda is not mentioned in our ayurveda literature but chapters on arbuda were found in bruhtrai as well as in laghutrai. And acharya says that the signs and symptoms of stanarbuda are as same as granthi only the location of arbuda is where it is situated is named as that type of Arbuda. If arbuda is present on breast it is named as stanarbuda likewise all arbudas were named. In very ancient time the treatment of tumour given in samhitas is surgery only. the diagnostic tool were not updated in those days but surgery was adviced ,in current situation the main treatment is also surgery but before surgery , in practice when the patients of stanarbuda comes to the physician in primary, secondary, or in tertiory stage , the need of that time is early dection, or early diagnosis. Based on the diagnosis of stanatbuda the author focuses on diagnostic approach that is fine needle aspiration cytology as well as correlation between types of stanarbuda and FNAC

findings. Along with that up to some extent the author is defining the common causes observed in stanarbuda.

As this tumour is situated in the breast in the female she suffers from lot of depression as well psychological disturbance, because the breast has always been symbol of womanhood and ultimate fertility. As a result, diseases of breast evolve a fear and loss of feminity.

As this tumours may be malignant and cancerous it is the need to include introduction about breast cancer. India is having almost one third of global “Breast cancer” patients. Consistent efforts over four decades in the US have resulted in early diagnosis and decreased death rates due to Breast Cancer. But, the incidence of Breast cancer is steadily rising. The statistics of WHO confirms it. This model may offer good vision for India so as to what can be done. The incidence rate of Breast cancer in India is increasing so heavily that it will be major burden on health system in next decade. In India in the year of 2012 almost 1,44,937 women were diagnosed with breast cancer. Out of which 70,218 women died of breast cancer that means every other patient of breast cancer is dying due to delayed diagnosis.

United States has achieved the goal of reduced mortality in breast cancer, with the help of massive peoples education regarding the disease. But still, the incidence rate of newly diagnosed cases are on the rise. In India there are multiple reasons for delayed diagnosis. Some of them are lack of social awareness, shyness, social stigma, poverty, and even lack of awareness among the doctors. In India in the year of 2012 there were 1,45,000 new cases were diagnosed. Considering the population of India this number may appear less. But it is predicted that in near future the breast cancer may overtake cervical cancer in total number of patients. In last four decades in india, cervical cancer was leading cause of death in women. But in coming decade the breast cancer is set to overtake cervical cancer. In last ten years or so breast cancer has been rising steadily. WHO predicts that for the year 2015 in India, there will be an estimated 1,55,000 new cases of breast cancer will be detected. Out of which 76,000 are expected to die of this disease. These numbers indicates that the need of hour is work aggressively on early detection.

The fine needle aspiration cytology for benign as well as for malignant lesion is a simple, safe, rapid and inexpensive diagnostic procedure which can be used

routinely for the preliminary diagnosis of carcinomas as well as inflammatory lesions. There were no such complications were studied by doing this procedure by experts. Before two decades ago needle cone biopsy was in practice but as this procedure can be carried out on the very first day of the patients visit to the OPD and treatment can be planned and explained to the patient before surgery and also there is no delay in patient care. But experience is required to correctly interpret staining results.

Fine needle aspiration cytology emerged as a ray of hope for diagnosis of any palpable lesions and also gained popularity of diagnosing breast lesions. Breast aspiration cytology is useful diagnostic tool which contributes to early diagnosis of mammary cancer and also in diagnosis of recurrent disease, appearance of metastasis and during follow-up of cancer mass. Fine needle aspiration cytology is a safe tool with high degree accuracy. Its advantages include rapidity, opportunity to follow up patients with clinically benign lesions without surgery, early hospital admission in malignant lesions and better psychological preparation of patient for mastectomy.

Regarding these things the present research work has been undertaken with following main aim and object.

Aim and object

To find out relation between types of Arbuda found at Stana and its diagnosis by Fine Needle Aspiration Cytology.

For these purposes author tried to give : Detailed description about Stnarbuda and its types as well as the types of benign and malignant tumours, information about fine needle aspiration cytology, where it is indicated, the method of fine needle aspiration cytology, staining procedure for that, the diagnosis by FNAC.

THOUGHT BEHIND THE TOPIC SELECTION:

While doing clinical work and research work it was significantly found that many young patients having age below 30 were coming for FNAC. The situation in countryside is much worse. The social impact is more when the patient is young. As young patients has more aggressive presentation of breast tumour.

A few decades back ,breast cancer was much more common after fifty years of age, and the number of young women suffering from this disease were lesser, almost 65% to 70%.patients were above 50 years and only 30-35% women were below fifty years of age. However, presently, breast cancer is more common in the younger age group and 50% of all cases are in the 25-50 years age group.

The number of breast cancer cases in all age groups is rising rapidly. More than half the patients still present to doctors in advanced stages. So, the need of hour is early detection by the diagnostic aids like Fine neddle aspiration cytology, so that cancer can be detected earlier and treat earlier stages thereby giving a chance of longer life for the patient as also decreasing the chance of recurrence.

In day to day life so many patients seen suffering from breast cancer. One in each family is the sufferer, in friends, in relatives, in neighbour, as well as in society. When working in the field of breast cancer awareness it seems that there is complete illiteracy about this problem, and the main thing was delayed diagnosis, so that the patients were troubled and suffered very much from chemotherapy and radiotherapy and their side effects. There is complete illiteracy about fine needle aspiration cytology. So in the present work, the intention of the researcher is focused on FNAC as well as establish the relation between types of Stanarbuda and the diagnosis by FNAC findings.

FRAME WORK OF DISSERTATION:

The plan of study undertaken in the current project in given below.

Review of Literature : It comprises of historical aspects of the disease. Previous research work done on this topic. Ayuvedic and modern prospective of all physiological and pathological concepts of concerned ailiments.

Disease Review : Latest information regarding etiology, pathogenesis, diagnosis etc. has been collected from ayurvedic as well as from modern literature.

Clinical Study : This section deals with the signs and symptoms of stanarbuda, the diagnosis by ayurveda and diagnosis by Fine nedle aspiration cytology of the patients.

Materials and Methods : In this section there is description of material and methods adopted for the study as well as material and method for the fine needle aspiration cytology is given in details. The criteria of assessment of the disease in the form of staging and grading, pattern is explained. Apart from that the diagnosis from the cytological aspirations were explained in detailed.

Observations and Results : This section deals with presentation of observation, results, and their Statistical analysis.

Discussion : Comprehends the work from different perspectives and the inferences by deductive, reasoning on the basis of Ayurvedic and Modern principles.

Summary and conclusion : In this section, centre research work has been summarized and the conclusion have been drawn on scientific and logical basis.

Bibliography : Various references from text books, journals, as well as from websites have been cited which were used for the completion of research project.

Appendices : Case history sheet,and other relevant forms or formats have been appended in the end.

REVIEW OF LITERATURE

HISTORICAL REVIEW

The historical references about the disease "Stanarbuda" in Ayurveda Literature are as follows.

Vedic period: (4000-6000 B.C.)

While going through Indian literature, the direct description of the word "stanarbuda" as a disease or symptom is not available, but acharyas were aware about the disease in terms of Arbuda.

Samhita period: (1500 BC-4th AD)

In samhita period, the Acharyas didn't mentioned the seprate disease stanarbuda and its nidanpanchak sepreately as like other diseases. But as earlier said they have given the description about arbuda. The special referances about Stanarbuda were not mentioned in ayurved samhita granthas, but referances of arbuda were found in bruhtrai as well as laghutrai. Arbuda means the large vegetation of flesh which appears at any part of the body ,becomes slightly painful, rounded, immovable, and deep-seated and has its root sunk considerably deep in the affected part and which is due to the vitiation of the flesh and blood by the deranged aggravated doshas,vata,pitta,kapha is called arbuda. Stanarbuda is a mansavriddhijanya and mansdushtijanya shoth with kapha and medadushti.

A) Ashtanga Hridayam: (600 AD)

Acharya Vagbhata, have also mentioned the similar reference about arbuda like that of ashtang sangraha. [1]

B) Ashtang Sangraha: (600 AD)

Acharya vriddha vagbhat has mentioned arbuda in his uttartantra under granthi-arbuda-shlipad-apachi-nadi-vidyaniya adhyaya. He mentioned that the common characteristic of arbuda is that it is relatively bigger than granthi. Sangrahkara has also mentioned the treatment of Arbuda.[2]

C) Bhavprakash:

Acharya bhavprakash and sharangdhra are in agreement with Madhvkara regarding the definition of Arbuda. Bhavprakash mentioned arbuda in galgand-gandmala-granthi-arbuda-adhikara adhyaya. He also mentions arbuda is bigger than granthi and it is very chronic in nature, it is not suppurative and the growth is often slow.Bhvprakash also focuses on the types of arbuda as well as he has given sadhya-asadhyatwa-lakshana of arbuda. One more interested thing given by acharya is that he has given the cause of non-suppurativeness of arbuda because of kapha and meda bahulya and this doshas are chronic in nature. [3]

D) Charak Samhita:

Acharya Charak was not given any detailed description or classification in his grantha, but only while dealing with the treatment of shvayathu, he says that the line of treatment to be followed in the disease arbuda is like granthi.He also states that samanya hetu of mansapradoshaj vyadhi and shoth can be considered as samanya hetu of arbuda. [4]

E) Harit Samhita:

In Harit samhita, in tritiya sthana, and in arbuda rog chikitsa adhyaya, the references were given about types of arbuda as well as samprapti and treatment of it. But he has mentioned sannipatik type of arbuda. [5]

F) Madhav Nidan:

Regarding the classification of disease arbuda, acharya, madhav is in agreement with sushruta. But he has mentioned one another doshik variety as dwidoshaj, which is sadhya entity. [6]

G) Sharangdhar Samhita:

Acharya sharangdhara only denotes the types of arbuda in his pratham khand, arbuda prakara adhyaya. The types were mentioned vataj, pittaj, kaphaj, raktaj, mansaj and medoj. [7]

H) Sushrut Samhita:

Acharya sushruta describes in his nidansthana, adhyaya, granthi-apachi-arbuda that, the types of arbuda, and samprapti, in details.He also focuses on sings and symptoms of granthi and says that the same sign and symptom were taken for arbuda. Acharya sushrut says that, the large vegetation of flesh which appears at any part of the body, becomes, slightly painful, rounded, immovable and deep-seated, It's root sunk considerably deep in the affected part, and which is due to the vitiation of the flesh and blood by the deranged and aggrevated doshas (vata, pitta, kapha) is called an arbuda by the learned physicians. [8]

Although all types of arbuda have their origin in the deranged flesh and blood, preponderant action of the deranged blood is found in raktaj arbuda, while a dominant action of the deranged flesh marks the mansarbuda type. In sushrut sutrasthana he has mentioned sadhy-asadhyatwa and in sushrut chikitsa shtana he has mentioned the treatment of arbuda as a whole in granthi-apachi-arbua-galgand-chikitsa-adhyaya.

I) Yogratnakar:

Acharya yogratnakar has also mentioned same information as like sushrut nidansthna in his galgand-gandmala-apachi-granthi-arbuda-nidan-adhyay. [9]

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a) Department of Shalyatantra:

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CONCEPT OF STANARBUDA:

The special references about "Stanarbuda" were not mentioned in ayurved samhita literature. But references about arbuda were mentioned in bruhtrai as well as in laghutrai.

DEFINATION OF ARBUDA:

The definition of arbuda is that means at any part of the body when vitiated doshas takes place by afflicting flesh it produce a swelling which is rounded, fixed, slightly painful, big in size, broad based, slowly growing and not suppurate. It is deep seated and takes place by mansa dushti and medodushti. [1]

रोगः उत्सेधप्रधानः।

च.सू. १८/३३

गात्रप्रदेशे क्वचिदेव दोषाः संमूच्छिता मांसमसृक प्रदूष्य।
वृत्तं स्थिरं मन्दरुजं महन्तनल्पमूलं चिरवृध्द्यापाकम्

मा.नि. ३८/१८

ARBUDA SWARUPA:

अर्बुदोऽचं ग्राथितो महान भवति।

अ.सं.उ-३४

ETYMOLOGICAL DERIVATION:

Arbuda is constituted of the root word "arbb" and the verb "udeti". The meaning of the "arbb" is to kill, to hurt, or to go towards and the meaning of the verb "udeti" is to elevate, to rise, to through up.

The different contexts are:

1. Swelling 2. A disease process 3. A tumour 4. Polyps 5. A serpent 6. A cloud 7. A long round mass 8. Name of a mountaion in the west india 9. Name of a hell 10. Name of a kind of a shape. 11. Name of a people 12. Lump of flesh 13.Swollen fleshy mass 14.Deep rooted 15.Firm mass 16.Non-suppurating mass.17.Knoot

The above mentions are various meanings of the word Arbuda. We are considered arbuda as a disease process.

SEAT OF ARBUDA:

The sixth fold or layer is called rohini, which is of equal thickness as a vrihi (grain),and it is the seat of granthi, apachi, arbuda, slipada and gal-gand etc. [2]

षष्ठी रोहिणी नाम व्रीहिप्रमाणा, ग्रन्थ्यपच्यर्बुदश्लीपदगलगण्डाधिष्ठाना ।

सु.शा. ४/३

Classification of Arbuda:

As it has already been mentioned that the references of the disease stanarbuda is not found separately but the description of arbuda which is available in ayurved texts is more applicable to the benign nature of neoplasia, so it is perfect for benign growths. For malignant growths, it provides a solid base and outline to explore the subject. The subject is scattered and thus a systemic classification is not found. But acharya sushruta gives a view of classification. The same disease entity is available in scattered form relating to the site of organ, chronicity, prognosis, etc. in various other places with different ayurvedic texts.

SUSHRUT SAMHITA:

On the predominance of doshas and dushyas,acharya sushruta has classified the disease arbuda into six types namely vataj, pittaj, kaphaj, raktaj,mansaj,and medoj.In sushrut samhita nidansthana ,acharya says that the signs and symptoms of Arbuda were similar to the signs and symptoms of granthi. He has also given the description about prognosis. The interesting thing about arbuda given by achrya is that about nonsuppuration of arbuda because of kapha and meda in excess. The two

different types of arbuda mentioned by sushrutacharya were adhyarbuda and dwirarbuda which are not curable. He also mentioned that arbuda which is having discharge, and which is fixed is permanently not curable.

संख्यात् षड्विधम वात-पित्त-कफ-रक्त-मांस- मेदोज भेदात्।

सु.नि. ११/१४

वातेन पित्तेन कफेन चापि रक्तेन मांसेन च मेदसाच् ।
तज्जायते तस्य च लक्षणानि ग्रन्थेः समानानि सदा भवन्ति ।।

सु.नि. ११/१४-१५

In Sharangdharsamhita in seventh chapter by prayag data sharma says that there are six types of Arbuda.[3]

षड्विधम स्यात्तथाअर्बुदम्।।
वातापित्तात्कफाद्रक्तान्मांसादपि च. मेदसः।।

शा.सं.प्र.खण्ड ७/ ६८-६९

YOGRATNAKARA:

Yogratnakar also gives the same reference as like sushrut nidansthana about classification of arbuda. **[4]**

MADHAVNIDAN:

Madhavnidan also gives the classification about arbuda and he is agree with acharya sushrut. But he has mentioned one another doshik variety as dwi-doshaj which is curable entity. **[5]**

BHAVPRAKASH:

Bhavprakash classified arbuda in the same manner as in sushrut samhita.[6]

महान्तं ग्रन्थ्यपेक्षया ।
चिरेण वृध्दिर्यस्यतच्चिरवृध्दि।
अपाकमि ति ग्रन्थेः सकाशादस्य भेदज्ञापकम्

भा.प्र.उत्तरार्ध ४४/८

Other referances related to Arbuda:

Sushrut Samhita:

While dealing with the disease of linga under shukdosha, sushruta has mentioned two types of arbuda they are shonit arbuda and mansa arbuda. Among these shonitarbua is sadhya whereas mansarbuda is asadhya.

In the same way while dealing with kshudra rogas, he has described another variety of arbuda, sharkra arbud which is a sadhya variety.

In the similar manner, while dealing with the diseases of shalakya-tantra, he has mentioned about the occurence of the disease. In the organs like netra, karna, nasa while describing the diseases of vartma, he has mentioned, that out of twenty one varma roga, vartma arbuda ia one and it is sadhya entity.

In the same way, while describing the diseases of mukhrog, he has mentioned talvrbuda and it is an asadhya one and considered that of raktarbuda.[7]

तद्यथा- सर्षापिका, अष्ठिलिका शोणिताबुर्द

मांसार्बुद तिलकालकश्चेति।।

सु.नि.१४/३

अजगल्लीका यवप्रख्या अन्धालजी शर्कराबुर्द तथा गुदभ्रंश ।।

सु.नि. १३/३

Ashtang Hridaya and Ashtang Sangraha:

Acharya vagbhat has classified the disease arbuda as same as acharya sushruta. They has given the types according to dosha and dushyas. But sushrutacharya has not mentioned asadhya-non curable variety which was discussed by vagbhat. Further more, while describing the treatment of arbuda he has classified, it based on chronicity. 1. Navya that is new and 2.Jeerna that is chronic. As per vagbhataacharya, different types of arbudas according to site are [8] :

Disease	Site	Type of Arbuda	Prognosis
1.Mukh-rog	Oshtha	Jalarbuda Oshtarbuda (Raktarbuda)	Sadhya Asadhya
	Talu	Talvarbuda	Sadhya
	Kantha	Galarbuda	Asadhya
	Sarvsara	Kapharbuda	Asadhya
2.Shiro-rog	Kapala	Kapalarbuda	Sadhya
3.Karna-rog	Karna	Karnarbuda	Sadhya
4. Nasa-rog	Nasa	Nasarbuda	Sadhya
5.Kshudra rog		Sharkara arbuda	Sadhya
6.Guhya-rog	Ling	Ashrug arbuda	Sadhya
		Mansarbuda	Asadhya

In this way all the classification of arbuda is given by acharyas in ayurvedic literature. But here one thing is coming infront of us like a mirrior that specific stanarbuda is not mentioned by any of these acharyas, may be at that time the incidence may not be higher, so that they can not be nominated this as a seprate entity or disease.

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NIDAN-PANCHAK

NIDAN:

The term nidan relates to both etiology and diagnosis of the disease. The etiology helps in ascertain the causative factors of a disease whereas , diagnosis helps in the determination of the nature of the disease. But the former is of prime importance since it deals with causative factors. As per the description avaible with the texts, hetu or causes of arbuda can be classified into : 1. samanya hetu 2. vishesh hetu.

Samanya Hetu:

Charak samhita :

Charakacharya has also mentioned the etiological factors, site, shape, dosha and dushya of arbuda are the same as granthi. So that samanya hetu of mansapradoshaj vikara and shoth can be considered as samanya hetu of arbuda. [1]

Charakacharya has mentioned arbuda as mansapradoshaj vyadhi and also a type of shoth according to following references.This means the disease like arbuda, adhimans etc. which are similar where the characteristics of growth is concerned and have got some other different signs, symptoms and names, can be taken under the chapter of shoth. [3]

Acharya charak and vagbhat included this disease under the heading of shopha rog. Both these authors are unanimous in their opinion that the etiological factors , which are responsible for shopha ,are also responsible for arbuda. [4]

न हि सर्वविकाराणां नामतोऽस्तिध्रुवास्थिती।
स एव कुपिता दोषाः समुत्थान विशेषतः।
स्थानान्तरगतश्चापि विकारान् कुरुते बहून ।।

च.सू.१८/३८

रुजावर्णेत्यादि। समुत्थानभेदा हेतुभेदाः रुक्षभोजन रात्रिजागरणा दिभिन्न हेतू-जन्योहि वातो भिन्नोपक्रमसाध्यश्च भवतिति भावः स्थानभेदा आमाशयादयो रसादयश्च संस्थानमाकृतिः यथा गुल्मार्बुदादिः।

श्रृणु मांसप्रदोषजान् ।।
अधिमांसार्बुदं गलशालूकशुण्डिके ।
पूतिमांसालजीगण्डमालोपजिव्हिका ।।
विद्यान्मांसाश्रयान् ।।

च.सू. २८/१३-१४

रोगोश्चोत्सेध सामान्यदधिमांसार्बुदायः।
विशिष्टा नामरुपाभ्यां निर्देश्याः शोथसंग्रहे ।।

च.सू.१८/३३

Samanya hetu of Mansapradoshaj Vikara and Mansavah strotodushti:

Abhishyadi bhojya (deliquescent), Sthula bhojya (gross), Guru bhojya (diet heavy to digest), Sleep immediately after lunch, The above mentioned are general causes which are responsible for arbuda, considered as a mansapradoshj vyadhi. [5]

अभिष्यन्दिनि भोज्यानि स्थूलानि च गुरुणि च ।
मांसावाहिनी दुष्यान्ति भुक्त्वा च स्वपतां दिवा ।।

च.वि. ५/१५

Sushrut samhita:

Acharya sushruta while dealing with arbuda says that causative factors and clinical features are same as granthi. [6]

तज्जायते तस्य लक्षणानि ग्रन्थेः सामानानि सदा भवन्ति।।

सु.नि. ११/१५

Acharyas of laghutrai followed the statement. In harit samhita it is mentioned that abhighataj (trauma) vrana, and vayu are responsible for origin of arbuda as per following references. [7]

वाताभिघातात्पवनाद्व्रणाद्वपि तथा पुनः।
रक्तनाड्यः प्ररोहन्ति रुध्यन्ति च तथा पुनः।।
तेन रक्तस्य मार्गस्तु रुध्यते तेन जायते।
अर्बुदं च महास्थूलं मार्गरोधाच्च जायते ।।

हा.सं. तृ.स्था.३७

Vishesh Hetu:

The etiological factors mentioned for specific type of disease is called as vishesh hetu. Acharya sushruta, vagbhat, madhav, bhavmishra etc. had explained following vishesh hetu for mansaj arbua that ,when the body part is inficted with blow of flesh etc,the vitiation of muscle takes place, and it gives rise to growth which is swollen. As well as the characteristics he given, that the growth is painless, glossy of the same colour, non-supputrating, stonelike and immovable. [8] This can be curable and found in those peoples whose muscle is vitiated and who indulge in meat-eating. [9]

मुष्टिप्रहारादिभिरर्दितेऽङगे मांसं प्रदुष्टं प्रकरोति शोफम।
अवेदनं स्निग्धमनन्यवर्णमपाकमश्मोपममप्रचाल्यम्।।
प्रदुष्टमांसस्य नरस्य बाढमेतग्दवेन्मांसपरायणस्य।
मांसार्बुदं त्वेतदसाध्यमुक्तं साध्येष्वपीमानि विवर्जयेत्तु।।

सु.नि. ११/१८-१९

प्रदुष्टमांसस्य नरस्य गाढमेतभ्दवेन्मांसपरायणस्य

मासाशनाभ्यासेन यः प्रदुष्ट मांसस्तस्य एतभ्दवतीत्यर्थः।।

भावप्रकाश मध्यमखण्ड

PURVARUPA:

Symptoms which manifest themselves before the appearance of the disease are known as premonitory symptoms. None of the acharyas describe premonitory symptoms of the disease arbuda, but acharya Vagbhat mentioned that the swelling of granthi, which is smaller in comparision to that of arbuda should be considered as purvarupa of arbuda.

RUPA:

In Ayurveda literatuture, acharyas has given the signs and symptoms of arbuda which are as follows. [11]

वृत्तं स्थिरं मन्दरुज मन्हान्तमनल्पमूलं चिरवृध्दयपाकम ।।

सु.नि.१३

गात्रप्रदेशे क्वचिदेव दोषाः संमूर्च्छिता मांसमसृक प्रदूष्य।

वृत्तं स्थिरं मन्दरुजं महन्तमनल्पमूलं चिरवृध्दयपाकम्।।

मा.नि. ३८/१८

Gatrapredeshe kvachit: Anywhere in the body or any tissue may be damaged.

Mansam-abhi-pradushyam : Predominantly it is the disease of mansa,that is damage of the muscular connective and epithelial tissues.

Vrittam-Sthiram: The growth is round and stony hard.

Manda-rujam: Pain is not present except final stage.

Mahantam: It is spread with deep route and so it is compared with a sign of crab.

Chir-vriddhi: It is chronic in nature and gradual in development.

Apakam: Non-suppurative.

Analp-mulam: The root is big in size, deep rooted.

Detailed description of this variety is explained by different Acharyas. Acharya Sushruta states that clinical features of Vataj, Pittaj, Kaphaj,and Medoj are always like that of Granthi. The features of Raktaj and Mansaj Arbuda are described. Acharya Sushruta also states that in the same that Arbuda is mainly due to the vitiation of Tridosha, where Kapha and Meda have been considered in a predominant stage due to which it has been said Arbuda does not get suppurated.

न पाकमायान्ति कफाधिकत्वान्मेदो बहुत्वाच्च विशेषतस्तु।

दोषास्थिरत्वाद ग्रथनाच्च तेषां सर्वार्बुदान्येव निसर्गतस्तु ।।

सु.नि.११/२६

VISHESH RUPA:

The special signs and symptoms of each type of arbuda were mentioned by sushrutacharya were as follows. He also mentioned the thing, that the sign and symptoms of granthi is same as considered for arbuda. [12]

तज्जायते तस्य च लक्षणानि ग्रन्थेः।

सामानानि सदा भवन्ति ।।

सु.नि.११/१५

ग्रन्थे समानानि वातिकपैत्तिकश्लैष्मिक मेदोजानाम र्बुदाना लक्षणानि तुल्यानि भवन्ति।।

VATAJ ARBUDA:

It seems to be drowning into elevated produces a feeling of stretching pain, shaking pain, pricking pain, being thrown and cutting and tearing pains. It is black in nature and is rough, elongated like a bladder distended with air. [13]

आयम्यते व्यथत एति तोदं प्रत्यस्यते कृत्यत एति भेदंम् ।

कृष्णोऽमुदू बस्तीरिवाततश्च भिन्नः स्रवेच्चविजोस्रमच्छम् ।।

सु.नि.११/४

PITTAJ ARBUDA:

A swelling which is characterized by excessive burning, fuming, boiling, sucking, and throbbing, cooking and inflaming pain. The knotty growth possesses red or yellow in colour and there is no suppuration. [14]

दन्दह्यते धूप्यति चोष वांश्च प्रापच्यते प्रज्वलतीव चापि।

रक्त सपीतोऽप्यथवाडपि पित्त भिन्नः स्रवेदुष्णमतीवचास्रम।।

सु.नि. ११/५

KAPHAJ ARBUDA:

A swelling which is characterized by excessive itching, slight pain, feels hard and compact as a stone. The swelling is slightly discoloured or abnormal colour, cold on palpation, slow in growth, without having suppurative stage. When brusts it discharges white solid pus. [15]

शीतोऽविवर्णोऽल्परुजोडतिकण्डूः पाषाणवत् संहनोपपन्नः।

चिराभिवृध्दिश्च कफप्रकोपाभ्दिन्नः स्रवेच्छुक्लघनं च पुयम।।

सु.नि. ११/६

SANNIPATIK ARBUDA: It is having symptoms of tridoshas.[16]

व्यायामजाततैरबलस्य तैस्तैरक्षिप्य वायुस्तु सिरा प्रतानम् ।

संकुच्य संपीडय विशोष्य चापि ग्रन्थीः करोत्युन्न तमाशु वत्तम्।।

मा.नि.३८/१६

MEDOJ ARBUA:

A swelling which is characterized by increases or decreases with increase or decrease in body. Unctous, bigger in size, with profuse itching, ghee like discharge may be present. It is glossy in nature ,large with little pain .When brusts, fat stimulating oil-cake or ghee is discharged. [17]

शरीरवृध्दिक्षयवृध्दिहानिः स्निग्धोमहानल्परुजोऽ तिकण्डूः।

मेदः कृतोगच्छति चात्र भिन्ने पिण्याकसर्पिः प्रतिमं तु मेदः ।।

सु.नि. ११/७

MANSAJ ARBUDA:

When a body part is inficted with blow of flesh etc, the vitiated muscle causes swollen growth. It is painless in nature, the same colour gives glossy appearance, which is non-suppurating, looks like as a stone, and not movable. This is found in those who indulge in meat-eating. [18]

मुष्टिप्रहारादिभिरा र्दितेऽगे मांसं प्रदुष्टंप्रकरोति शोफम्।

अवेदनं स्निग्धमनन्यवर्णम्पाकम्श्मोपममप्रचाल्यम ।।७।।

प्रदुष्टमांसस्य नरस्य बाढमेतभ्द्वेन्मांस परायणस्य ।।८।।

सु.नि. ११/७-८

मुष्टिप्रहारादिभिरित्यादि। अश्मोपमं पाषाणवत्

कठिनम् अप्रापल्यं स्थिरम्। यद्यपि रक्तमांसर्बुदयो रक्त-

मांसयोर्हेतुनोक्तिस्तथाऽपि रक्तजोपित्तं मांसजे वायुरम्मकः एवमपि तान्र्या

घृतदुग्धन्यायेन व्यपदेशः। मांसपरायणरय मांसाशमशीलस्य। तस्य चातिमात्रं

धानात्। **मा.नि. २२-२३**

RAKTAJ ARBUDA:

After aggrevation of, doshas, along with blood affect vessels. The culmination of dosha , blood, and vessels creates raktaj arbuda. It is chatacterised by, fleshy lump with discharge.It is covered with fleshy sprouts. It discharges continuously. This tumour is incurable. The patient which is affected with this tumour suffers from other complications, and becomes pale with loss of blood. [19]

दोषः प्रदुष्टो रुधिरं सिरास्तु संपीड्य संकोच्य गतस्त्वपाकम्

सास्रावमुन्नहयति मांसपिण्डं मांसाङकुरैराचित माशुवृध्दिम् ।।१५।।

स्रवत्यजस्त्रं रुधिरं प्रदुष्टमसाध्यमेतद्रुधिरात्मकं स्यात् ।

रक्त क्षयोपद्रव पीडितत्वात् पाण्डूभर्वेत सोडर्बुदं पीडीतस्तु ।।१६।।

सु.नि.११/१५-१६

दोषः प्रदुष्ट इत्यादि। सङकुच्येति अन्तर्भवितोडत्रण्यर्थः। आपाकमीषत्यापकं, तेन सास्त्रवमित्युपन्नं भवति । दोष उन्नहयति उच्छ्रितो भवति। सास्त्रावमीषत्स्त्रावम्। मांसपिण्डमाशुवृध्दिं शीघ्रवर्धन, मांसाडकुरैराचितं करोति, तथा अजस्त्रं रुधिर प्रवृत्तिमपि करोति, रुधिरं चात्राधिष्ठानभूतं सिरागतं प्रवर्तने न तु पाकातू ईषदेव स्त्रावस्य क्लेदरुपस्योक्तत्वात् किंवा उन्नहयंतीत्यन्तर्भावितण्यर्थः तेन मांसपिण्डमुन्नाइयति उद्वतं करोति। दोषाः प्रदुष्टा इति पाठपक्षे सास्त्रावमुलहय हि इति पाठः।।

The differentiating signs and symptoms of vataj, pittaj, kaphaj and sannipatik arbuda were explained by harita those are as follows.

वातान्मृदूच्च परुषं कफाच्च घनशीतलं ।

पित्तेन दाहपाकाद्यैः विजनीयं विचक्षणैः।।

सन्निपातेन कठीणं घनं पाषाणसन्निभं।

वृध्दिमच्च गडुकं स्यादसाध्यं तभ्दिषग्वरः।।

हा.सं.तृ.स्था. ३७

SPECIAL VARIETIES OF ARBUDA:

DWIR-ARBUDA:

Acharya sushruta has mentioned this type of arbuda which is is incurable. [20] The sign of this arbuda is, one arbuda along with another arbuda at once, or arbuda found over the pre-existing one. [21]

यद् द्वन्द्वजातं युगपत क्रमाद्वा द्विरर्बुदं तच्च भवेदसाध्यंम्।। **सु.नि. ११/२१**

यद द्वन्द्वजातं युगपत् क्रमाद्वा द्विरर्बुदं तच्च भवेदसाध्यम्।। **मा.नि.३८/२४-२५**

ADHYARBUDA:

Acharya sushrut mentions this type of arbuda which is also incurable. [22] The sign of adyarbuda is, one arbuda placed upon another arbuda, or formed instantaneously or in sequence. [23]

यज्जायतेऽन्यत खलु पूर्वजाते ज्ञेयं
तदध्यर्बुदमर्बुदज्ञैः। **सु.नि. ११/२१**

अध्यर्बुद प्राह- यज्जायतेऽन्यत् खलु पूर्वजाते ज्ञेयं तदध्यर्बुदमर्बुदज्ञैः।

मा.नि.३८/२४-२५

SHARKARA-ARBUDA:

The glandular swelling is produced by the combination of muscles, vessels, ligaments, kapha, fat and vata upon bursting excessive secretion similar to honey, ghee, and fat is discharged. Further the excessive provocation of vayu produces atrophy of the muscles along with concretion in the gland, bad odour with excessive saddening and sudden discharge of blood of various colours from vessels. [24]

मेदोऽनिलकफैग्रंथी: स्नायुमांस शिराश्रयै:।

तां स्रावयन्ति निचितां विद्यात्च्छर्करार्बुदम्।।

अ.ह.ऊ. ३१/७-८

प्राच्य मांससिरास्नायू: श्लेष्मा मेदस्तथाडनिल:।

ग्रंथी कुर्वन्ति भिन्नोऽसौ मधुसर्पिर्वसा नंभम्

स्रवत्यास्रावमत्यर्थ तत्र वृध्दिं गतोडनिल:।

मांस विशोष्य ग्रथितां शर्करा जनयेत पुन:।।

दुर्गन्धं क्लिमत्यर्थं नानावर्ण तत: सिरा:।

स्रवन्ति सहसा रक्तं तद्विद्यार्करार्बुदम् ।।

मा.नि.क्षुद्ररोग/२२-२४

As per chronicity of Arbuda:

Navyarbuda and Jeernarbuda:

Vagbhatacharya is only Acharya who mentioned and classified the disease Arbuda as per the chronicity and he described two different local applications according to the chronicity of occurance.

SAMPRAPTI OF ARBUDA:

Acharya sushruta, vagbhat, madhav, bhavprakash, yogratnakara, all acharyas has mentioned very similar samanya samprapti means common pathogenesis of arbuda. They states that, when aggravated doshas vitiate muscle and thus produce round,firm,large,deep rooted,slowly developing ,non-suppurating and swollen fleshy mass and this is known as arbuda. [25]

गात्रप्रदेशे क्वचिदेव दोषाः समूर्च्छिता मांसमसृक प्रदूष्य।

वृत्तं स्थिर मन्दरुजं महन्तमनल्पमूलं चिरवृद्ध्यपाकम्।।

कुर्वन्ति मांसोच्छ्रयव्यगाधं तदर्बुद शास्त्रविदो वदान्ति ।।

मा.नि.३८/१८

वृत्तं स्थिरं मन्दरुजं महान्तमनल्पमूलं चिरवृध्दयपाकम्।

कुर्वन्ति मांसोपचयं तु शोफं तदर्बुदं शास्त्रविदो वदन्ति ।।

सु.नि. ११/१३

कफप्रधानाः कुर्वन्ति मेदोमांसास्रगा मलाः ।।

वृत्तोन्नतं यं श्वयथुं सग्रन्थिर्ग्रथनात्स्मृतः।।

अ.ह्र.उ. २९/१

महत्तु ग्रन्थितोऽर्बुदम्।।

अ.ह्र.उ. २९/१४

SAMPRAPTI GHATAK :

Dosha **:** Predominance of kapha and vata with tridosha.

Dushya **:** Mansa,meda,rakta.

Strotas **:** Mansa,meda,rakta.

Stroto-dushti : Siragranthi

Agni **:** Agnimandya.

Rog-marga **:** Bahya.

Udabhav-sthana: Anywhere in the body.

Adhisthana **:** Sixth layer of the skin means rohini.

Pratyatmalinga: Mansopchaya and shoth.

As per Haritsamhita:

Prakupit dosha enters in raktanadi and obstruct the way,due to this obstruction an extra large growth called Arbuda develops. [26]

वाताभिघातात्पवनाद्व्रणाद्वपि तथा पुनः।
रक्तनाड्यः प्ररोहन्ति रुध्यन्ति च तथा पुनः।।
तेन रक्तस्य मार्गस्तु रुध्यते तेन जायते।
अर्बुदं च महास्थूलं मार्गरोधाच्च जायते ।।

हा.सं. तृ.स्था.३७

VISHESH SAMPRAPTI:

Sampratpti of Raktaj Arbuda:

Samprapti of raktaj arbuda is mentioned by Acharya sushruta, vagbhat, and madhav is as good as same. Doshas vitiated due to any cause enter in sira, which causes obstruction of it. A fleshy, hard growth appears rapidly. This growth is highly vascular and has characteristics of severe bleeding.Due to this blood loss, the complications like pandu, or anemia are observed in the patients suffering from this type of arbuda. [27]

While Gayadas a commentary writer of sushrutsamhita had explained that ,the discharge or bleeding is due to involvement of vessels and it is not because of maturation, as it is said apakam. [28]

दोषः प्रदुष्टो रुधिरं सिरास्तु सम्पीडय सङ्कोच्य गतस्तु पाकम् सास्रावमुन्नहयति मांसपिण्डं मांसांकुरेराचितमाशु वृध्दिम्।।

सु.नि. ११/१६

शिरास्थं शोणितं दोषः सङ्कोच्यान्तः प्रपीड्य च ।
पाचयेत तदानध्दं सास्रावं मांसपिण्डितम् ।।
मांसाङ्कुरैश्चितं याति वृध्दिंचाशु स्रवेत्ततः
अजस्रं दुष्टं रुधिरं भूरि तच्छोणितार्बुदम्।।

अ.ह्र.उ.२९/१५-१७

स्रवदजस्रं इति अधिष्ठानभूतसिरारुधिरं नतु पाककृतं ईषदेव क्लेदमात्र लक्षणस्यास्रावस्योक्त त्वात्:।

गयदास टीका

Samprapti of Mansaj Arbuda :

Mansaj arbuda is also explained as same by sushruta,vagbhat,and madhav, this means due to excessive non vegetarian diet ,due to trauma, due to any indulgence of any other cause, Mansa dhatu gets vitiated and develops a painless, hard, fixed ,unctuous growth possessing various colours and shows the property apaka that is not getting infected. This growth is called as mansaj arbuda. [29]

मुष्टिप्रहारादिभिरर्दितेऽङगे मांसं प्रदुष्टं प्रकरोति शोफम्।
अवेदनं स्निग्धमनन्यवर्णमपाकमश्मोपममप्रचाल्यम।।१८।।
प्रदुष्ट मांसस्य नरस्य गाढमेतभ्द्वेन्मांस परायणस्य।
मांसार्बुदं त्वेतदसाध्यमुक्तं साध्येष्व पीमानि विवर्जयतु।।१९।।

सु.नि.११/१८-१९

मुष्टिप्रहारादिभिरर्दितेऽङगे मांसं प्रदुष्टं प्रकरोति शोफम्।
अवेदनं स्निग्धमनन्यवर्णमपाकमश्मोपममप्रचाल्यम।।
प्रदुष्ट मांसस्य नरस्य गाढमेतभ्द्वेन्मांस परायणस्य।
मांसाशनाभ्यासेन यः प्रदुष्टः मांसस्तस्य एतभ्दवतीत्यर्थः।।

भा.प्र.म.खं.२२/२३

Stages of samprapti with modern concept:

SANCHAY: (LOCALISATION)

Dosha when in a balanced stage shall reamain in their own ashays as a normal body phenomenon ,but any disturbance resulting to the ineqillibrium between the doshas results into their over accumulation though remaining within their original limited spaces, which in results do give some un natural feeling both to doshas as well as to the body in general. After neoplastic transformation, progressive proliferation of neoplastic cells is initially supported with nutrients supplied from the organ microenvironment by diffusion. Accumulation of toxin into particular group of cells, and start mild dysplasia. Premalignant lesions is including in this group.

PRAKOPA : (ACCELERATION)

When provocative factors responsible for the previous stage of Sanchya are allow to act further then, the previously accumulated stage now get irritated though still remaining in their own original locus. Neovascularisation or angiogenesis must take place for the tumour mass to exceed one cm. in diameter. Local spread in tissue space. i.e. local invasion of tumour.

PRASARA : (SPREAD)

Again if the provocative factors responsible for the previous two stages are still allow to continue then the previously irritated doshas may spread over and extend to other parts, organs and moving through the body and their will be a felling of various doshic symptomatological conditions. Cappilaries and thin walled venules, like lymphatic channels, offer very little resistence to penetration by tumour cells entering into circulation. Spread along preformed anatomical pathways and usually poorly differentiated carcinomas. This spread by lymphatics, blood, invasion, retrograde venous.

STHANSANSHRYA : (EMOBILISATION)

As stated previously the condition of provocative factors responsible for sanchaya, prakop, and prasara stages if further allowed to then dissemianated doshas become powerful enough to localise in a tissue or an organ whose defence mechanism is weak. This is the stage where there is dual between the circulating doshas and the site.In other terms, this has been defined as dosha-dushya-sammurchana where a particular picture of the prodormal symptoms of the particular disease will be manifested. Detachment and emobilisation of single tumour cells. Once the tumour cells survived they arrest in capillary beds of distant organs by adhesion to capillary endothelial cells. Tumour cells proliferate in lumen of blood vessels. Distant metastasis as a secondary stage happens.

VYAKTI: (REACTION)

This is the stage clinical manifestation as well as complex can be demonstrated.This is the stage where due to both the excessive accumulation of

doshas as well as the causative factors gives sufficient damage to the tissues of the particular organ of site. Tumour cells bearing appropriate cells surface receptors can respond to paracrine growth factors and hence proliferate in the organ parenchyama. The metastatic cells must evade destruction by host defences that include specific and non-specific immune response. To exceed a mass of one milimeter in diameter metastasis develop a vascular network and thus it become an additional metastasis. Usually pain occurs in last stage.

BHEDA: (CHRONICITY)

This is a final stage of the disease and unusual termination of any pathological lesion, in which the disease either may become subcute, chronic, or incurable. This is incurable stage of the disease.

SAPEKSHA NIDAN:

The close study of ayurvedic literature reveals that all the acharyas were in agreement to the fact that the disease arbuda is very much similar to granthi, and shotha. so, this should be differentiated on the basis of clinical features. some of them tabulated as :

SIGNS	ARBUDA	GRANTHI	SHOPHA
Site	Anywhere in the body	Anywhere in the body	Anywhere in the body
Size	Big	Small	Indefinite
Shape	Round	Round	Irregular/Indefinite
Colour	As per dosha	As per dosha	As per dosha
Swelling	Due to mansopchya	Due to grathan	Due to dosha-sangrah
Discharge	Sadhya-absent Asadhya-absent	Present	Absent
Growth rate	Sadhya-slow Asadhya-rapid	Slow	As per dosha
Suppuration	Absent	Absent	Present
Mobility	Sadhya-mobile Asadhya-immobile	Sadhya- Mobile Asadhya-Immobile	Immobile
Root	Deep	Superficial	Superficial

Base	Broad	Indefinite	Indefinite
Uthana	Ek-deshiya	Ek-deshiya	Ek-deshiya
Chronicity	Sadhya-chronic Asadhya-acute	Sub-acute	Acute
Reccurence	Present	Not mentioned	Absent
Pain	Mild/absent	As per dosha	As per dosha
Structure	Sadhya-typical Asadhya-atypical	Typical	Atypical
Spread	Present	Absent	Absent
Metastasis	Present	Absent	Absent

UPSHAYA-ANUPSHAYA:

It is an open fact that one does not find any clear reference regarding the Upashaya and anupshaya of the disease Arbuda, in any classical texts. Eventhough that factor which relieves the signs and symptoms of the patient, considered as Upashaya for them and which increases the signs and symptoms should be Anupshaya for them.

SADHYA ASADHYATWA:

Before starting the treatment of any disease, it is important to know about the prognosis of the disease, that it is of which type sadhya, kashtsadhya, yapya,or asadhya.[30]

वातपित्त कफमेदोजानि। चत्वारि अर्बुदानि साध्यानि।

रक्तमांसजे द्वे असाध्ये।

अ.सं.उ.३४

यज्जायतेऽन्यत्खलु पूर्वजाते ज्ञेयं तदध्यर्बुदशैः।

यद् द्वन्द्वजातं युगपत्क्रमाद्वा द्विरर्बुदं तच्च भवेद्साध्यम्।।

सु.नि.११/२४

PROGNOSIS OF ARBUDA:

Acharya sushruta, vagbhat, madhav has mentioned sadhya means curable types of arbuda. They are vataj, pittaj,kaphaj,and medoj arbuda. According to harit, following types are sadhya, curable types of arbuda. vataj, pittaj, kaphaj. Acharya sushruta, vagbhat, madhavkar has mentioned as Asadhya i.e. non-curable types of arbuada, they are raktaj, and mansaj Arbuda. Bhoj a reknowned shalakya tantradnya has mentioned that tumours of cheeks, throat and neck are difficult to treat. [31]

मांसार्बुदं त्वेतद्साध्यमाहुः साध्येष्वपीमानि विवर्जयेच्च सम्प्रस्तुतं मर्मस्यु यच्च
जातं स्रोतःसु वा यतु भवेदचाल्यम्।।

सु.नि. ११/२५

APAKTWA (NON-SUPPURATION) OF ARBUDA:

Arbuda are round, firm, big, and deep rooted, chronic, slowly developing,and non suppurating in nature. But the reason given by acharya is that, the arbuda consisits of mainly kapha and meda, and all these aggravated doshas are very firm, so it is non suppurative in nature. The reference given by Sushrutacharya in his Nidansthana. [32]

न पाकमायान्ति कफाधिकत्वान्मेदोबहुत्वाच्च विशेषतस्तु ।
दोषास्थिरत्वाद्ग्रथनाच्च तेषां सर्वार्बुदान्येव निसर्गतत्तु ।।२।।

सु.नि. ११/२

All these types of Arbuda does not suppurate because of particular abundance of kapha and meda, firmness of growth, and their knottiness and also by nature.

Medas, accumulated in joints of jaw,bone,axilla,clavicle and arms as well as carotid region and neck produces,along with kapha gland firm, round, large, unctuous,and with mild pain which grows with other glands of the size of amalaka seed or mass of fish-egg,having the same colour,because of the pronounced growth it is known as apaki.(scrofula) They have itching with mild pain and when bursts,are dissolved giving rise to others.

Thus this disease caused by meda and kapha persisting for many years difficult to cure. [33]

हन्वस्थि कक्षा क्षकाबहुसन्धि-मन्यागलेषुपाचितं तु भेदः । ग्रान्थी स्थिरं
वृत्तमथायत वा स्निग्धं कफचाल्पजं करोति।।
तं ग्रंथिमिस्त्वा मलकास्थिमात्रैर्मत्स्याण्डनालप्रतिमैस्तथाडन्यैः।
अनन्यवर्णेरुपचीयमान चयप्रकर्षादपचिं वदन्ति।।
कण्डूयुतास्तेऽल्परुजः प्रभिन्नः स्रवन्ति नश्यति भवन्ति चान्ये।।
भेदः कफाभ्यां खलु रोग एष सदुस्तरो वर्षगणानुबन्धी ।।२।।

सु.नि.११/२

According to Bhojsamhita, he has also given the reference that ,this arbuda are fixed, and firm and by nature there is ,knottiness of the disease. So by nature arbuda are non-suppurating. [34]

भोजेऽप्युक्तं न पच्यते स्थिरत्वाच्च ग्रंथितत्वात् स्वभावतः इति ।।

भोजसंहिता-२६

Madhavkara has also given the reference for the non-suppuration of Arbuda it is as follows. He said that pitta-raktajadi arbuda were also non suppurating in nature because of kapha nad meda-adhikya. But when it becomes very chronic in nature and if pitta and rakta dosha were increased then and then only arbuda can be suppurated, but if aggrevated doshas are fixed and firm then the suppuration will never takes place. [35]

अर्बुदाना पाकाभावे हेतुमाह-न पाकमायन्तित्यदि।
सर्वार्बुदानि पित्तरक्तजान्यादि न पाकमायन्ति,
कुत इत्यत आह-कफाधिकत्वान्मेदोबहुत्वाच्च।

ननु, अपच्यामपि विशेषः कफमेदसि अधिके अथ च तस्याः पाकोऽडस्त्येव, इत्यत आह दोषास्थिर त्वादिति। अपच्या कालान्तरेन हि रक्त-पित्तमधिक पाकमारंभते, तच्चेह दोषास्थिरत्वात् सदा सदृश दोषास्थीरत्वात् सदा सदृशदोषत्वादग्रथितत्वाच्च न पाकारम्भकम्। अन्ये तु दोषास्थिरत्वदिति। दोषोच्छ्रायरुपशोथ काठिन्यदित्याहुः तदप्रयोजकम् अन्य दोषो च्छ्राय शोथकाठिन्येपि पाकदर्शनात्। भोजेऽप्युक्तं न पच्यते स्थिरत्वाच्च ग्रथितत्वात् स्वभावतः इति।।

मा.नि.-२६

53) Madhav nidan kshudra rog 26

All these are general types of Arbuda. They are present anywhere in the body where there is Khavaigunya, for e.g. Nasarbuda, Karnarbuda. So by all this description about Arbuda it seems that Arbuda where it is situated is named of that specific Arbuda. As like that when arbuda is present as Stana that is on Breast it is known as Stanarbuda.

STANA AS PER AYURVEDA:

There are seven Ashay in male, whereas in female there are another three ashaya more than male. Out of these three ashay Stana are two of them.

According to the reference of Acharya Sharangdhara, this ashaya named Stanyashaya is present in female.[36] According to Sushrutacharya, there are three another strotasa in female than in male.

Two stana that is breasts are from these strotasa. [37] These are two in number. There are ten number of peshi means, two strotas , two ashayas, and two dhamnyas present as stana. [38] Development of stana takes place at adolescent age.

Shape of Stana: Kalashakruti.

Two parts of Stana: 1.Stanachuchuk 2. Krishna mandal.

Stanasampat Lakshanas: 1. not much more to upper side (natiurdhvam) 2. not much elongated(natilambam) 3. not very much thin.(anatikrusha) 4.not very much big (anatipinau) 5. easy to suck for the baby (yukta-pippalaka-usukhprapanau) [39]

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MODERN REVIEW

MODERN REVIEW THE ANATOMY, EMBRYOLOGY, HISTOLOGY:

BREAST:

The breast is a modified sweat gland.

DEVELOPMENT OF BREAST:

Breasts develops from an ectodermal thicking called mammary ridge, milk line or line of Schultz. The line appears in the 4^{TH} weeks of intrauterine life. The ridge extends from axilla to groin, but it disappears in most of the extent persisting in pectoral region. The glands are ectodermal and stroma is mesodermal in origin. **[1]**

SITUATION AND EXTENT:

Breast lies in the superficial fascia of the pectoral region. A small extension called axillary tail of Spence pierces deep fascia lies in the axilla. Vertically it extends from 2^{nd} to 6^{th} rib. Horizontally it develops from lateral border of sternum to maxillary line. **[1]**

STRUCTURE OF BREAST :

The breast consists of two constituents, 1.Skin 2. Parencyama.

Skin: It gives a conical projection below the center called nipple. The skin surrounding the base of the nipple is pigmented called aerola. **[1]**

Parenchyma: There are 15-20 lobes, is cluster of alveoli and is drained by lactiferous duct which converge towards nipple and open into it. The alveolar epithelium is cuboidal in resting phase and columnar during lactation. The smaller ducts are lined by columnar epithelium. The larger ducts are lined by two or more layers of cells and terminal parts of lactiferous ducts by keratinized stratified squamoua epithelium. The ducts and alveoli are surrounded by myoepithellial cells beneath the epithelial lining. **[1]**

The terminal duct lobular unit is each terminalduct and its ductules. The stroma is composed of fibro-connective tissue admixed with adipose tissue.

The stroma is composed of fibro-connective tissue admixed with adipose tissue. The interlobular stroma contains elastic fibers supporing larger ducts, while intralobular stroma is loose, delicate myxomatous and contains scattered lymphocytes. It is breast specific and hormonally responsive stroma. [1]

BLOOD SUPPLY:

Internal thoracic artery and intercostals arteries supplies blood to the breast tissue. Also axillary artery supplies through lateral thoracic and thorasico-acromial branches.

Venous drainage is into the internal thoracic vein and superficial veins of the neck, axillary, and posterior intercostals veins. [1]

LYMPHATIC DRAINAGE :

The lateral quadrant drains into the anterior axillary group (75%) Medial quadrant drains into internal thoracic group(20%)also drainage to the posterior intercostals nodes and some lymph vessels to opposite breast and anterior abdominal wall. [1]

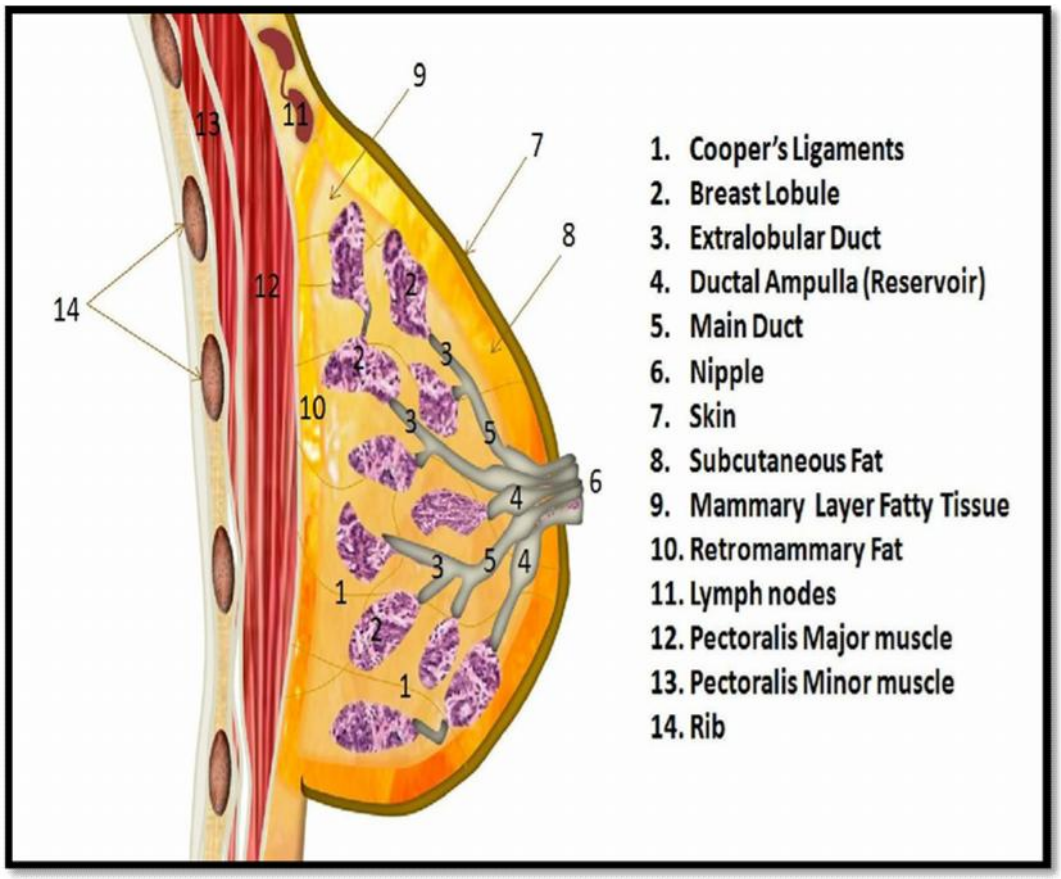
LYMPH NODES:

1. The axilary lymph nodes: The anterior, posterior, lateral, central and apical groups.
2. The internal mammary: Parasternal nodes lies along the internal thorasic vessels.
3. Some lymph nodes: Supraclavicular nodes, the cephalic (deltopectoral) node. [1]

NERVE SUPPLY:

The nerves which supplies the breast are anterior and lateral cutaneous branches of the forth to sixth intercostals nerves. The nerves gives sensory fibres to skin and automatic fibres to smooth muscle and to blood vessels.

Anotomy of Breast



PHYSIOLOGICAL VARIATION:

DEVELPOMENT OF MAMMARY GLAND:

1. **At birth**: It is rudimentary at birth.It consisits of only tiny nipple and radiating ducts. [2]

2. **At puberty**: The development occurs very less upto the time of puberty,but at the time of menstruation there is slight regression and between the menstruation there are proliferative changes. [2]

Changes during menstrual cycle: During proliferation phase acini are lined by two distinct layers of cells. Their lumina are small and well differentiated.The connective tissue is more collagenous and less cellular. [2]

During secretory phase : The lumina becomes dilated and there may be true secretions in the lumina.The breast swelling experienced by many women during 10 days preceding menstruation is probably due to distension of ducts, hyperemia and odema of interstitial tissue of breast. [2]

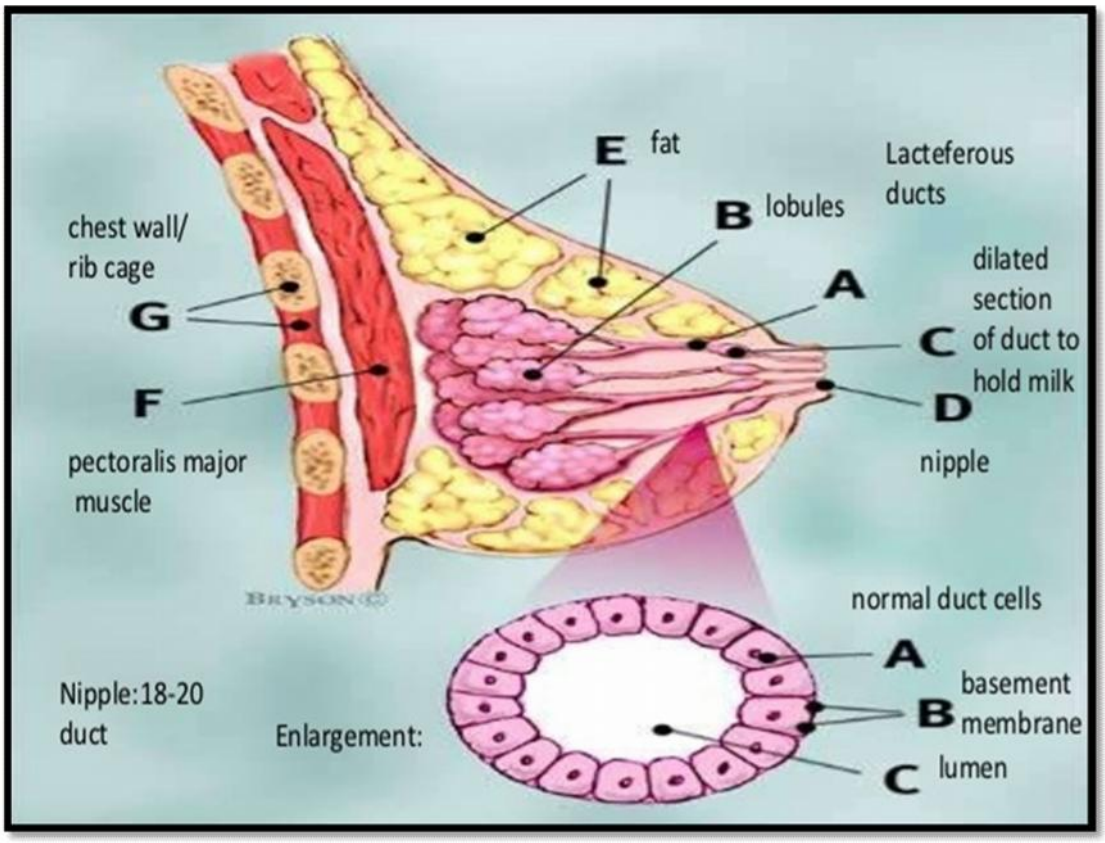
CHANGES IN PREGNANCY AND LACTATION:

In early pregnancy the lobules exhibit little or no increase in size. Epithellial cells show uniform cytoplasmic vacuolation, prominent nucleoli and occasional mitotic figures. [3]

In mid-pregnancy the lobules larger and are increased in size and number of acini. Cytoplasmic vacuolation of epithelial cells become more prominent. With continued increase in lobular size, both intralobular or interlobular connective tissue becomes obliterated, with the onset of lactation there is greatest distension of acini and obliteration of connective tissue. [3]

Post-menaupausal involution: The knowledge of involution is necessary to distinguish physiological process from pathologic once.There is gradual decrease in lobular component. The basement membrane of acini is thickened, the epilthellium shrinks and lumina are obliterated. Increase in elastic tissue is a prominent feature of aging process. [3]

Physiology of Breast



HISTOLOGY OF BREAST:

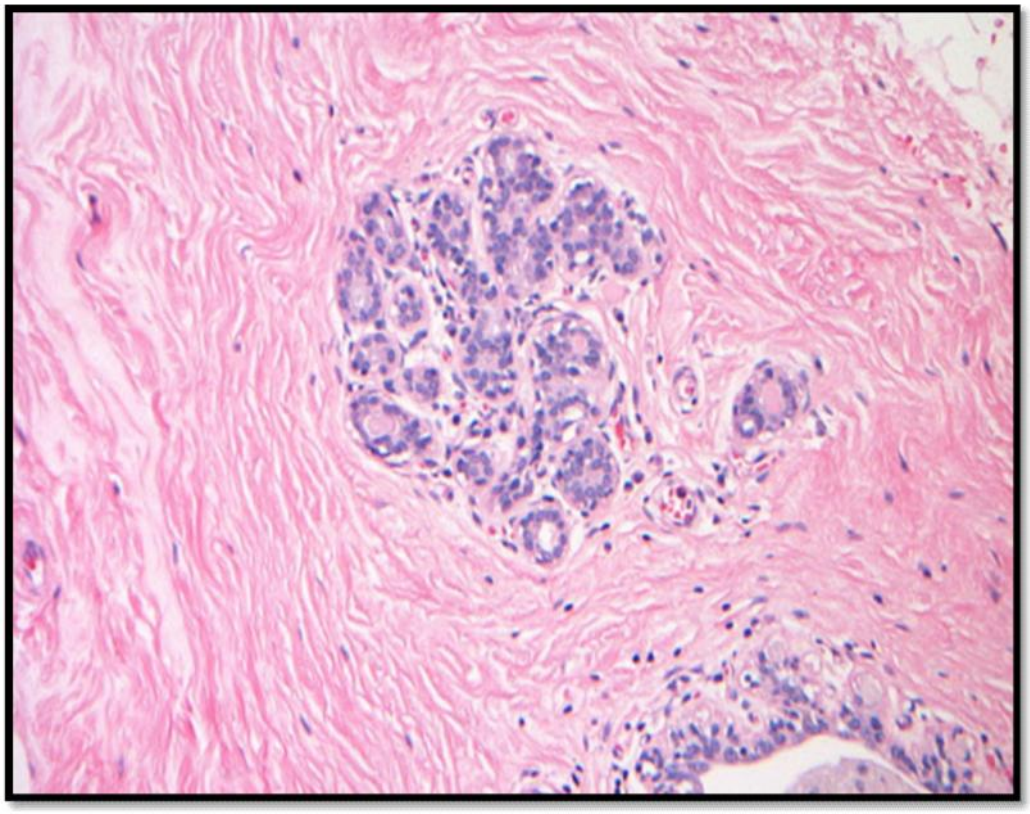
Mammary gland cosisits approximately 20 lobes. It is compound alveolar gland. Each lobe is surrounded by connective tissue. Every lobe is linked by means of lactiferous duct to the nipple. Only active or lactating mammary gland has secretary alveoli. The secretary alveoli are surrounded by myoepithelial cells. A good quantity of adipose tissue is often present in mammary gland.Ligaments of cooper are elastic fibre that attach the breast to the integument. The areolar glands of Montgomery are present on the surface of mammary gland. [4]

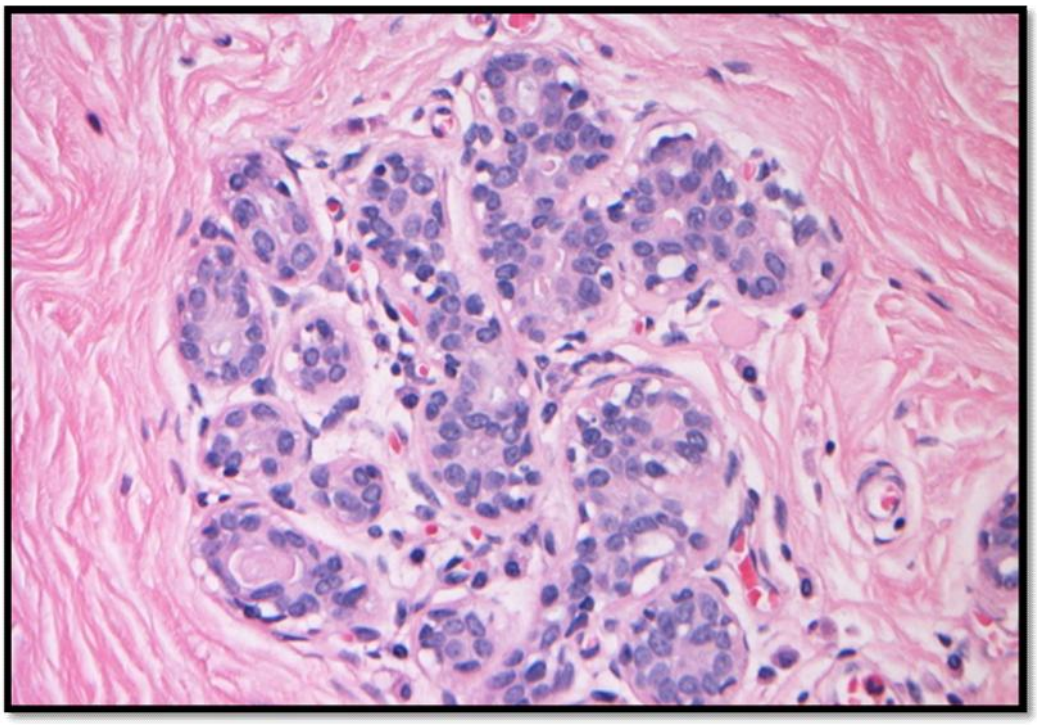
Estrogen plays important role at puberty on breast development. It promotes accumulation of adipose connective tissue and collagenic fibres. Estrogen also influences proliferation of lactiferous duct. [4]

Lactogenic hormone (LTH) and prolactin are involved in development and growth of mammary gland. Oxytocin is involved in milk ejection. It acts on myoepithelial cells. [4]

Lactiferous ducts are lined by stratified columnar epithelium or stratified cuboidal epithelium. Myoepithelial cells surrounds the duct cells. Plasma cells and lymphocytes are located in the intralobular connective tissue. During pregnancy there is marked growth and proliferation of secretory alveoli at the ends of terminal interlobular ducts. The secretory alveoli contains milk secreting cells. The apical end of cells contains membrane bound secretory granules that contains caseins, alpha lactalbumin, IgA, and lipids. [4]

Histology of Breast





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DISEASE REVIEW

CLASSIFICATION:

BENIGN BREAST DISEASE [1] :

I) Aberrations of normal development and involution (ANDI):

Mostly with clinical mastalgia

II) Primary Non-Cyclical Mastalgia:

- Musculoskeletal.
- Cervical root pain.

III) Breast Lumps:

1. Cysts
2. Galactocoele
3. Sclerosing Adenosis
4. Fat necrosis
5. Cyclical Nodularity.
6. Chronic Abscess.
7. Lipoma

IV) Benign Neoplasam [2] :

1. Fibroadenoma
2. Phyllodes tumour
3. Duct papilloma

V) Disorders of the nipples and periariolar region :

1. Nipple discharge and inversion.
2. Mammary fistula.
3. Duct ectasia/periductal mastitis.

4. Retraction.

5. Sepsis.

NON-NEOPLASTIC LESIONS [1] :

I) Abnormalities of growth and development:

1. Ectopia: a) Supernumerary breast tissue b) Aberrant breast tissue.

2. Macromastia.

3. Amastia and hypoplasia.

II) Inflammatory and reactive lesions:

1. Breast abcess.

2. Sub-areiolar abcess.

3. Non-specific chronic mastitis:

a) Granulomatous lobular mastitis.

b) Mammary duct ectasia.

c) Fat necrosis.

d) Dibetic mastopathy.

4. Specific Mastitis:

a) Tuberculous mastitis.

b) Actinomycosis

c) Fungal infections.

d) Parasitic infections.

e) Viral mastitis.

f) Foreign body granulomas.

g) Sarcoidosis.

BENIGN NEOPLASMS:

1. Fibroadenoma.

2. Phyllodes tumour.

3. Duct papilloma.

MALIGNANT NEOPLASMS OF THE BREAST [3] :

1. Carcinoma
2. Sarcoma.

1. Carcinoma:

I) Ductal carcinoma of the breast:

1. Ductual carcinoma in-situ.

2. Invasive ductul carcinoma:

a) Infilterating duct carcinoma with productive fibrosis.(Scirrhous carcinoma)

b) Medullary carcinoma.

c) Tubular carcinoma

d) Mucinous carcinoma.

e) Pappilary carcinoma.

f) Adenoid cystic carcinoma.

II) Lobular carcinoma of the breast:

a) Lobular carcinoma in situ.

b) Invasive lobular carcinoma.

Paget's disease.

Inflammatory carcinoma.

2. Sarcoma:

1. Lyposarcoma
2. Rhabdomyosarcoma
3. Fibrosarcoma

4. Haemangiosarcoma

5. Lymphosarcoma.

6. Cystosarcoma.

7. Carcinosarcoma

8. Stromal sarcoma.

3. Mixed connective tissue and epithelial tumours :

1. Fibroadenoma

2. Phyllodes tumour

3. Carcinosarcoma.

4. Miscellaneous tumours:

1. Soft tissue.

2. Skin tumours.

3. Tumours of hemopoetic and lymphoid tissues.

5. Unclassified tumours.

6. Tumour like lesion:

1. Inflammatory pseudotumours.

2. Hamartoma.

3. Gynecomastia.

STAGES OF TUMOUR [4] :

Stage 1: Lump is 2 cm or smaller, no spread in lymph nodes.

Stage 2:

Stage 2 A: **1.** Smaller than 2 cm, spread in lymph nodes or

2. Bigger than 2 cm and not spread to the lymph nodes.

Stage 2 B: 1. Lump is smaller than 5 cm, spread in lymph nodes.

2. Bigger than 5 cm, not spread to lymph nodes.

Stage 3:

Stage 3 A: Lump can not be found in breast or less than 5 cm, spread to lymph nodes.

Stage 3 B:
1. Cancer has spread to tissue near breast.
2. Attached to skin or muscles.

Stage 3 C:
1. Cancer spread to 10 cm
2. More lymph nodes are involved in armpit
3. Lymph nodes below or breast bone near neck.

Stage 4:
1. Spread to the bones, liver, lungs.
2. Secondary or metastatic breast cancer.

TNM SYSTEM FOR CLINICAL STAGING [5]:

The system is important for clinical observation of tumour.

Tumour (T):

T0: No demonstrable tumour in the breast.

T1: Tumour 2 cm or less, no skin involvement, locally involved in pagets disease.

T3: Tumour greater than 5 cm

T4: Tumour of any size : Skin infilteration, Ulceration, Skin odema, Peau'd orange, Pectoral muscle or chest wall involvement.

Regional lymph nodes:

N0: Axillary lymph nodes not palpable.

N1: Palpable lymph nodes.

N2: Fixed axillary nodes.

N3: Infraclavicular nodes to contain metastasis.

Distant metastasis:

M 0: No distant metastsis

M 1: Metastasis beyond the breast.

STAGING:

Stage 1: T1, N0,

Stage 2 :T1,N1b,M0, or T2,N0,M0,or T0,N1b,M0,or T2,N1a,M0,or T2,N1b,M0.

Stage 3:T3,N2,M0, or T4,N2,M0

Stage 4: Any T, Any N with M1.

WHO classification [6]:

The 2003 World Health Organization (WHO) classification of tumors of the breast which includes **benign** (generally harmless) tumors and **malignant** (cancerous) tumors, recommends the following pathological types:

Tumors of the male breast
Gynecomastia (benign)
Carcinoma
In situ
Invasive
Malignant lymphoma
Non-Hodgkin lymphoma
Metastatic tumors to the breast from
Other places in the body
Precursor lesions
Lobular neoplasia
lobular carcinoma in situ
Intraductal proliferative lesions
Usual ductal hyperplasia
Flat epithelial hyperplasia
Atypical ductal hyperplasia
Ductal carcinoma in situ
Microinvasive carcinoma
Intraductal papillary neoplasms
Central papilloma
Peripheral papilloma
Atypical papilloma
Intraductal papillary carcinoma
Intracystic papillary carcinoma
Benign epithelial lesions

Invasive breast carcinomas
Invasive ductal carcinoma
Most are "not otherwise specified"
The remainder are given subtypes:
Mixed type carcinoma
Pleomorphic carcinoma
Carcinoma with osteoclast giant cells
Carcinoma with choriocarcinoma features
Carcinoma with melanotic features
Invasive lobular carcinoma
Tubular carcinoma
Invasive cribriform carcinoma
Medullary carcinoma
Mucinous carcinoma and other tumours with abundant mucin
Mucinous carcinoma
Cystadenocarcinoma and columnar cell mucinous carcinoma
Signet ring cell carcinoma
Neuroendocrine tumours
Solid neuroendocrine carcinoma (carcinoid of the breast)
Atypical carcinoid tumor
Small cell / oat cell carcinoma
Large cell neuroendocrine carcinoma

Adenosis, including variants
Sclerosing adenosis
Apocrine adenosis
Blunt duct adenosis
Microglandular adenosis
Adenomyoepithelial adenosis
Radial scar / complex sclerosinglesion
Adenomas
Tubular adenoma
Lactating adenoma
Apocrine adenoma
Pleomorphic adenoma
Ductal adenoma
Myoepithelial lesions
Myoepitheliosis
Adenomyoepithelial adenosis
Adenomyoepithelioma
Malignant myoepithelioma
Fibroepithelial tumours
Fibroadenoma
Phyllodes tumour
Benign
Borderline
Malignant
Periductal stromal sarcoma, low-grade
Mammary hamartoma
Benign tumors of the nipple
Nipple adenoma
Syringomatous adenoma
Paget's disease of the nipple
Malignant tumors of the nipple
Paget's disease of the nipple

Invasive papillary carcinoma
Invasive micropapillary carcinoma
Apocrine carcinoma
Metaplastic carcinomas
Pure epithelial metaplastic carcinomas
Squamous cell carcinoma
Adenocarcinoma with spindle cell metaplasia
Adenosquamous carcinoma
Mucoepidermoid carcinoma
Mixed epithelial/mesenchymal metaplastic carcinomas
(Other well-accepted subtypes of metaplastic mammary carcinoma thought to have clinical significance but not included in the decade old WHO classification:
Matrix-producing carcinoma
Spindle cell carcinoma
Carcinosarcoma
Squamous cell carcinoma of mammary origin
Metaplastic carcinoma with osteoclastic giant cells)
Lipid-rich carcinoma
Secretory carcinoma
Oncocytic carcinoma
Adenoid cystic carcinoma
Acinic cell carcinoma
Glycogen-rich clear cell carcinoma
Sebaceous carcinoma
Inflammatory carcinoma
Bilateral breast carcinoma

Mesenchymal tumors (including sarcoma)

Hemangioma

Angiomatosis

Hemangiopericytoma

Pseudoangiomatous stromal hyperplasia

Myofibroblastoma

Fibromatosis (aggressive)

Inflammatory myofibroblastic tumor

Lipoma

Angiolipoma

Granular cell tumour

Neurofibroma

Schwannoma

Angiosarcoma

Liposarcoma

Rhabdomyosarcoma

Osteosarcoma

Leiomyoma

Leiomyosarcoma

Diagnosis [6] :

Tumour size

Tumours under 1 cm in diameter are unlikely to spread systemically. Tumours are staged by size.

Diameter	Tumour size staging number
0–5 mm	T1a
5–10 mm	T1b
10–20 mm	T1c
20-50mm	T2
>50 mm	T3
Tumour involves skin or chest wall	T4

Lymph node involvement [6] :

Absence of cancer cells in the lymph nodes is a good indication that the cancer has not spread systemically. Presence of cancer in the lymph nodes indicates the cancer may have spread. In studies, some women have had presence of cancer in the lymph nodes, were not treated with chemotherapy, and still did not have a systemic spread. Therefore, lymph node involvement is not a positive predictor of spread.

Lymph node status	Lymph node involvement grade
No involved nodes	N0
Involved node or nodes	N1
Involved nodes that are fixed to one another	N2

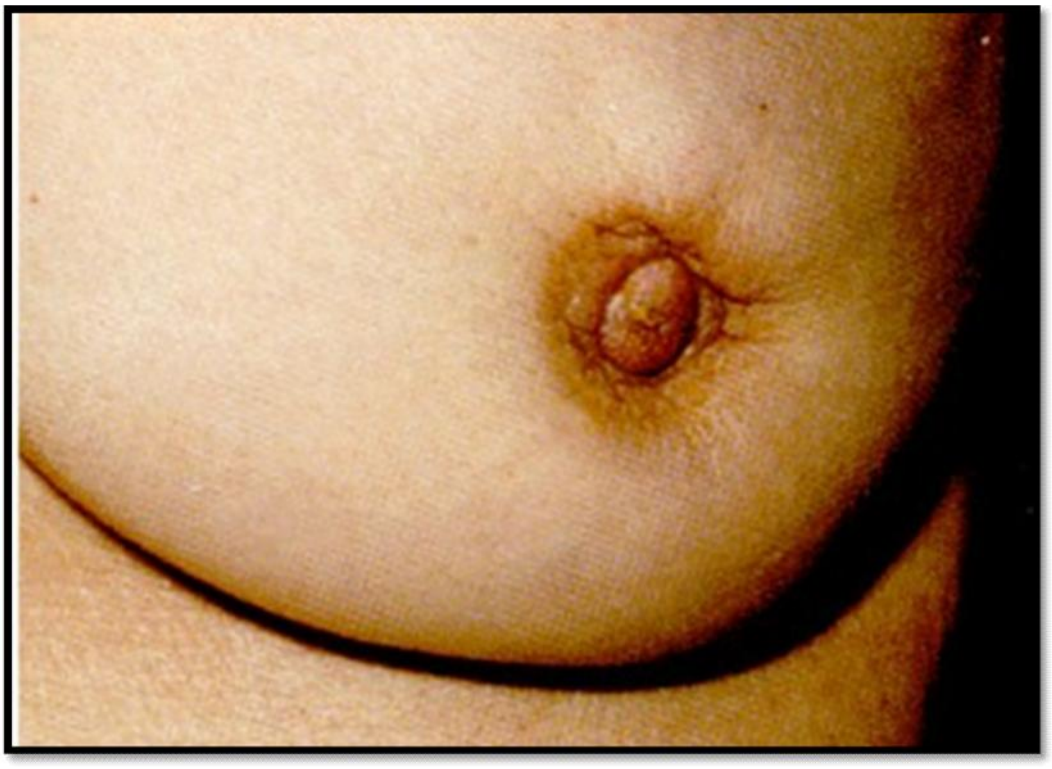
Clinical staging [6] :

Tumour size staging and node involvement staging can be combined into a single clinical staging number.

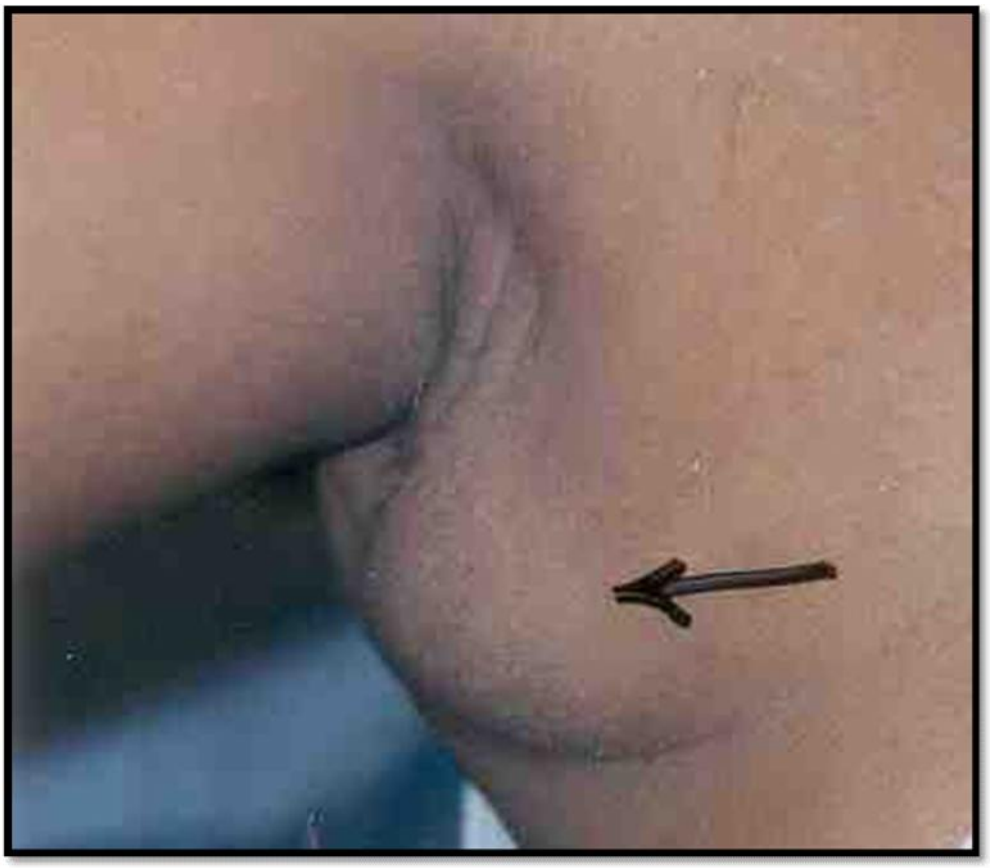
Tumour size staging	Node involvement staging	Clinical stage
T1	N0	I
T1	N1	IIA
T2	N0	IIA
T2	N1	IIB
T3	N0	IIB
T1-T2	N2	IIIA
T3	N1	IIIA
T3	N2	IIIA
T4	N0-N2	IIIB

PHOTOGRAPHS OF PATIENTS WITH BENIGN AND MALIGNANT TUMOURS.

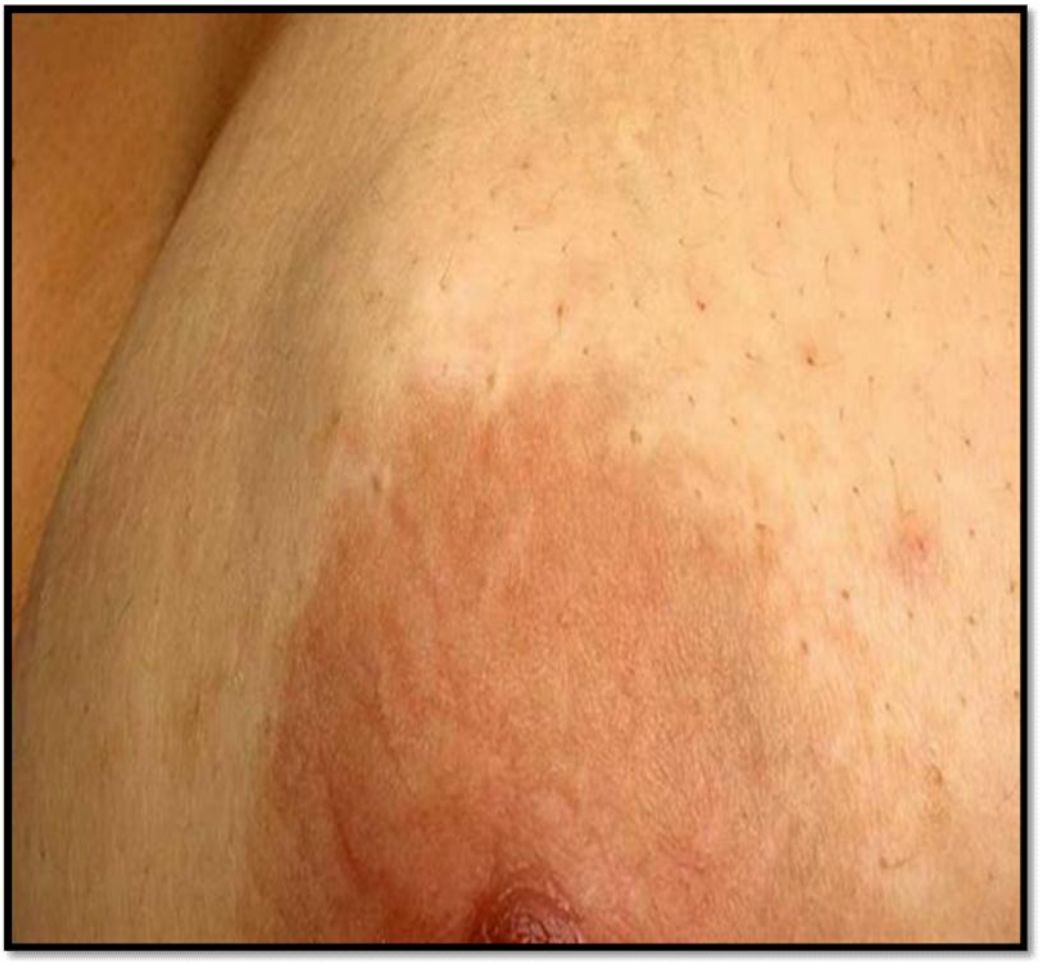
Breast cancer lump distorting the breast



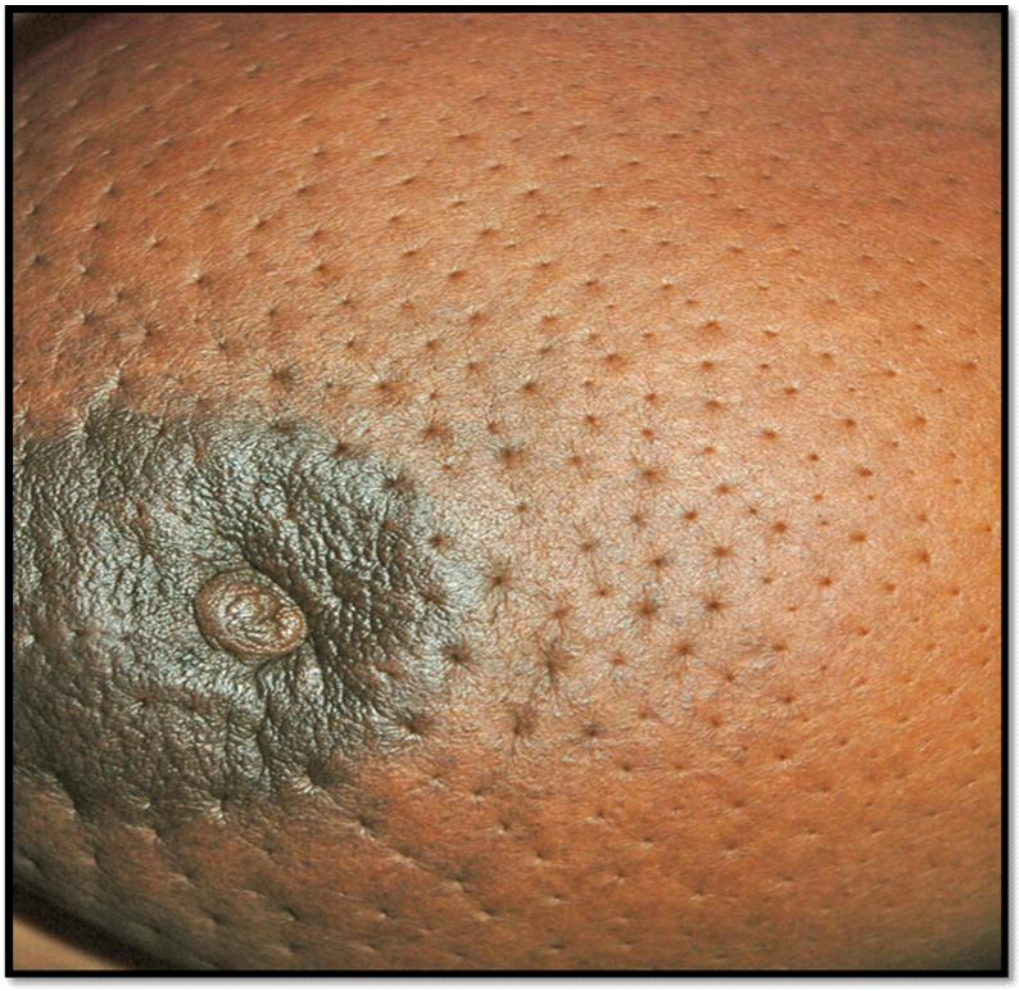
IDC with lymph node metastasis



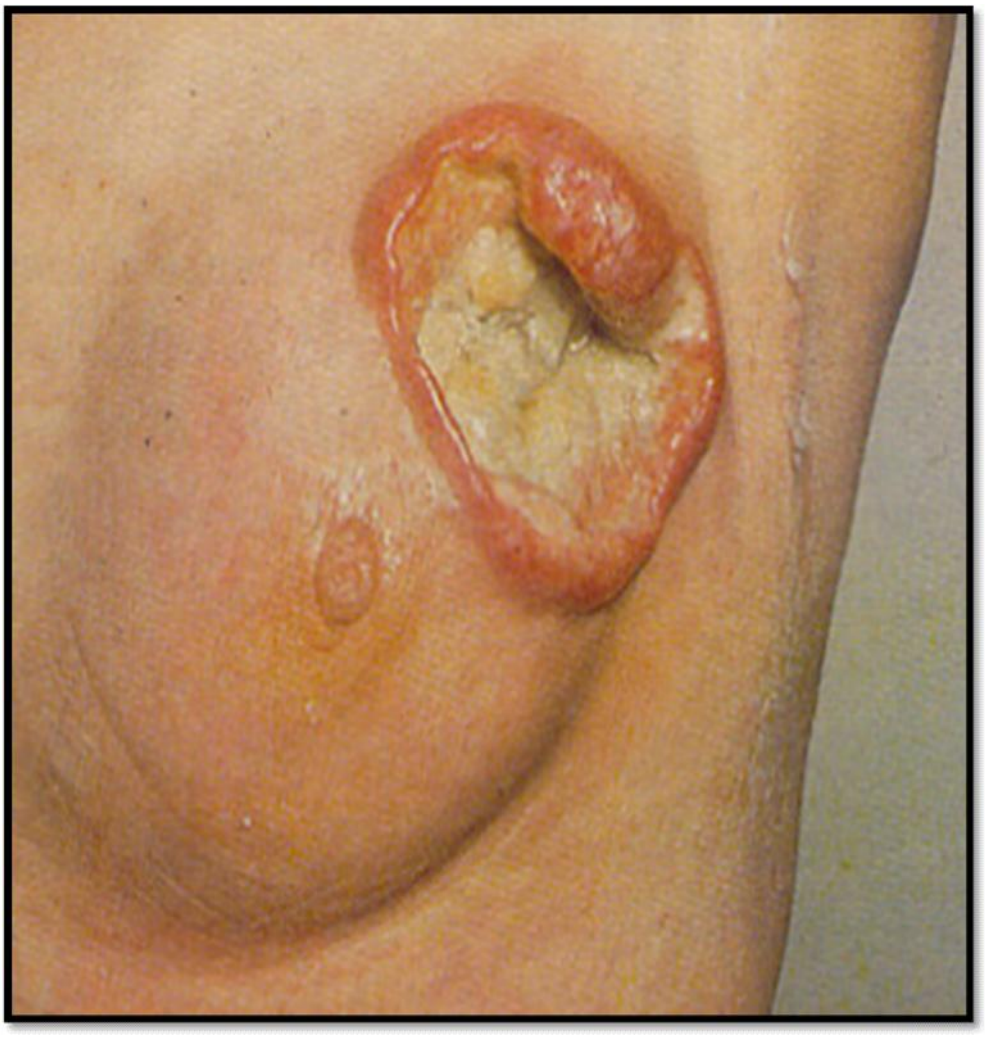
Beast Lump seen in the upper quadrant of breast



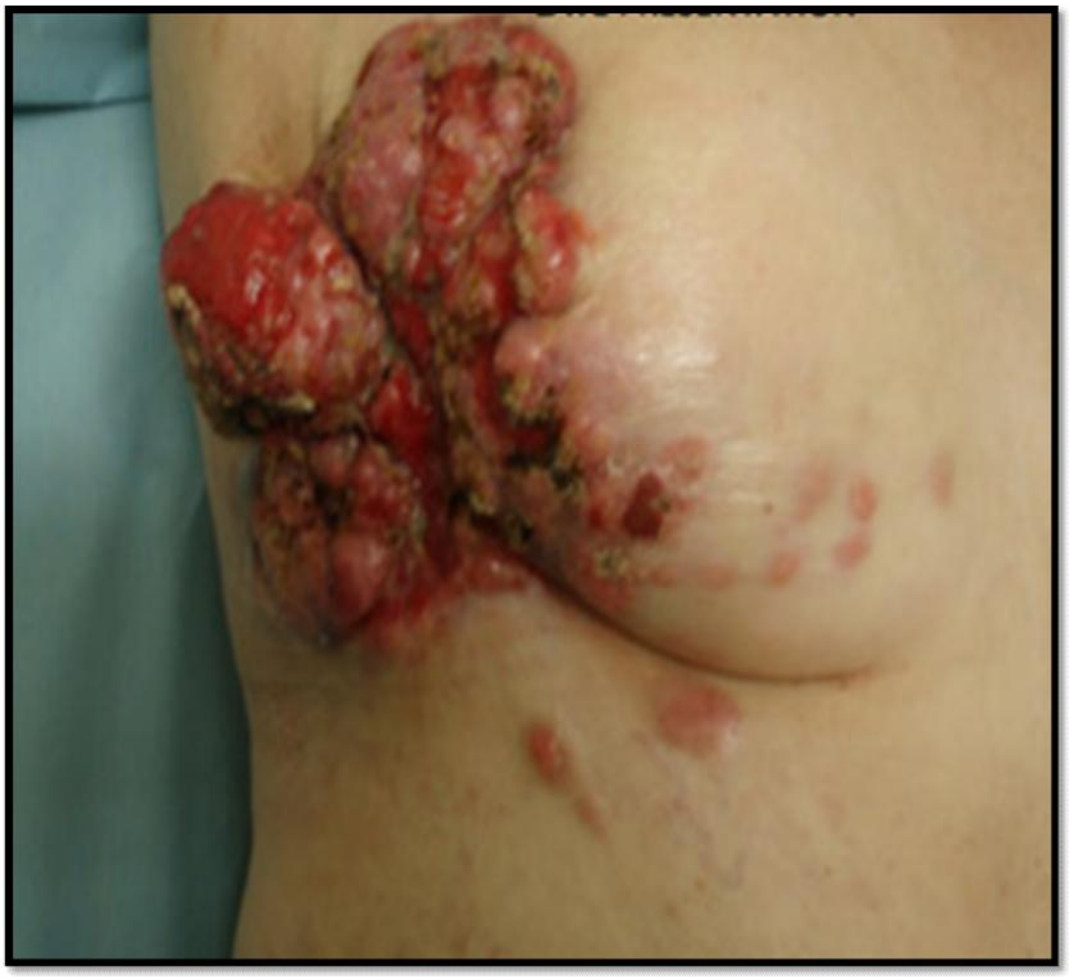
Advanced breast carcinoma with Nipple retraction and peau'd orange appearance



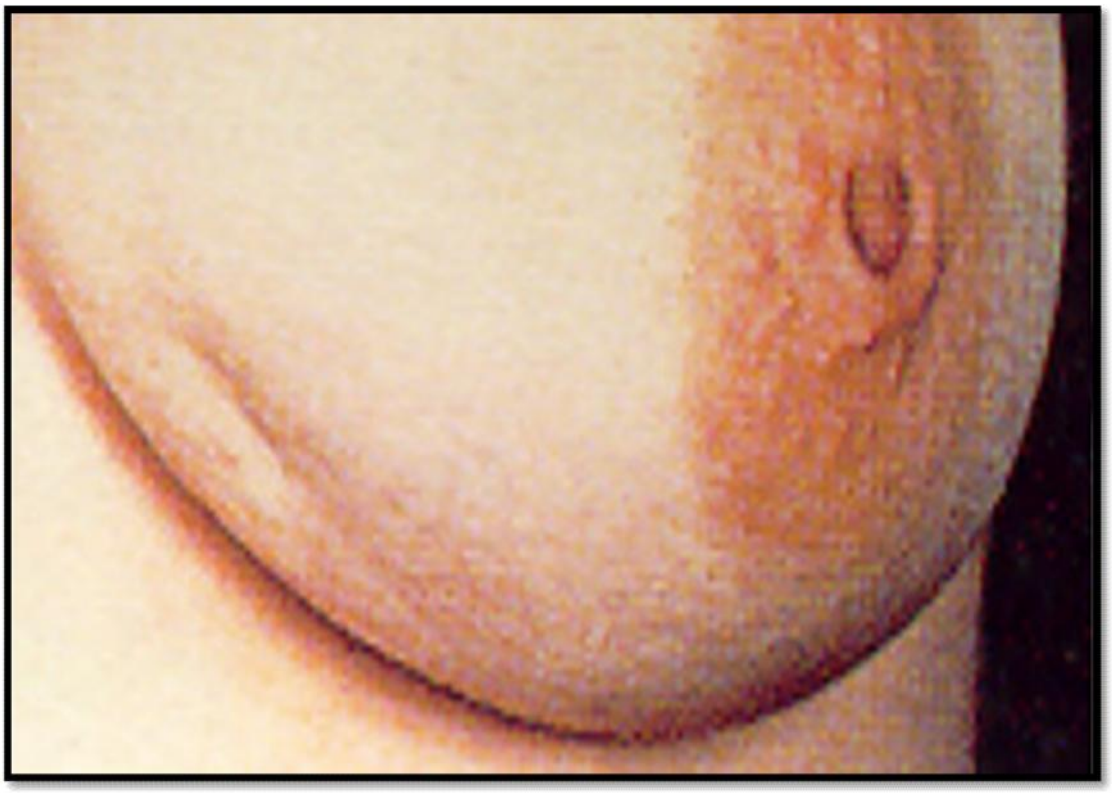
Advanced breast cancer images



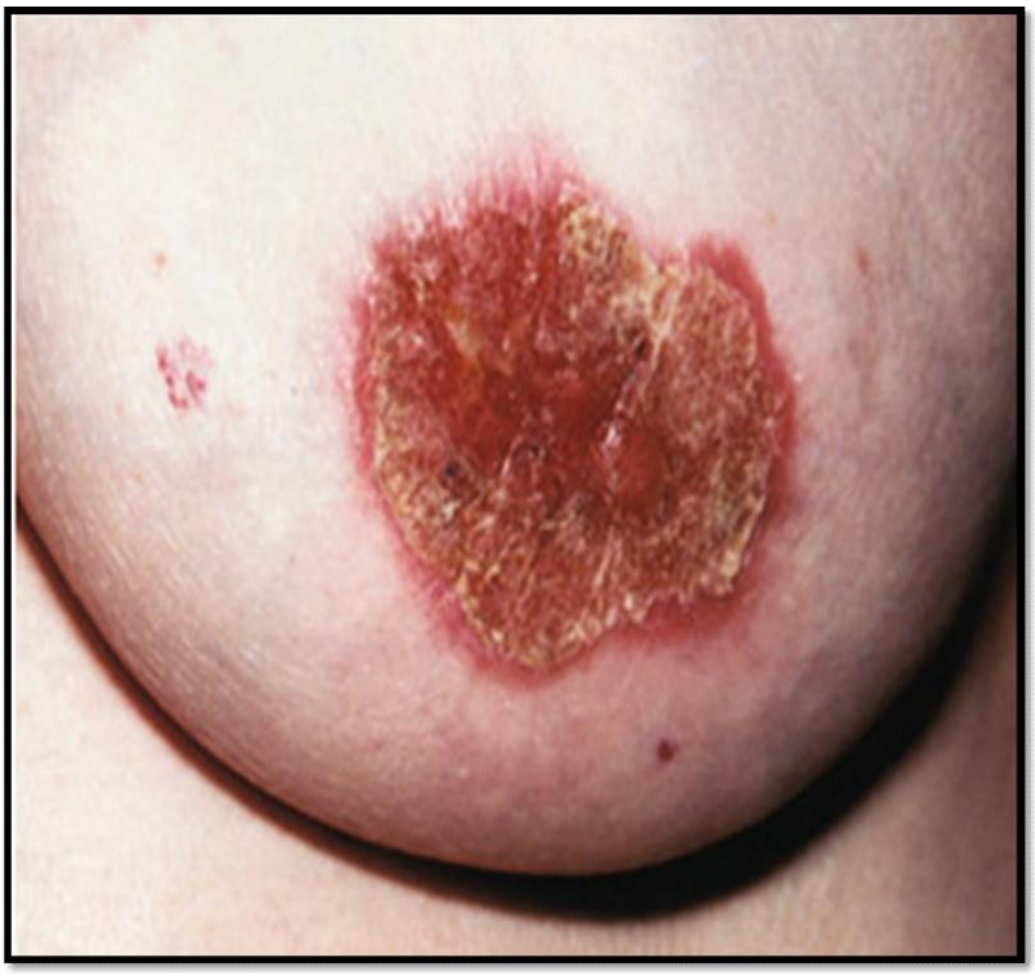
Advanced breast cancer images



Skin dimpling of breast and paget's disease of the breast



Skin dimpling of breast and paget’s disease of the breast



BENIGN BREAST DISEASE [1] :

I) Abberations of normal development and involution (ANDI) :

Two main groups one is definite relationship with menses. Another group not relates with menses.

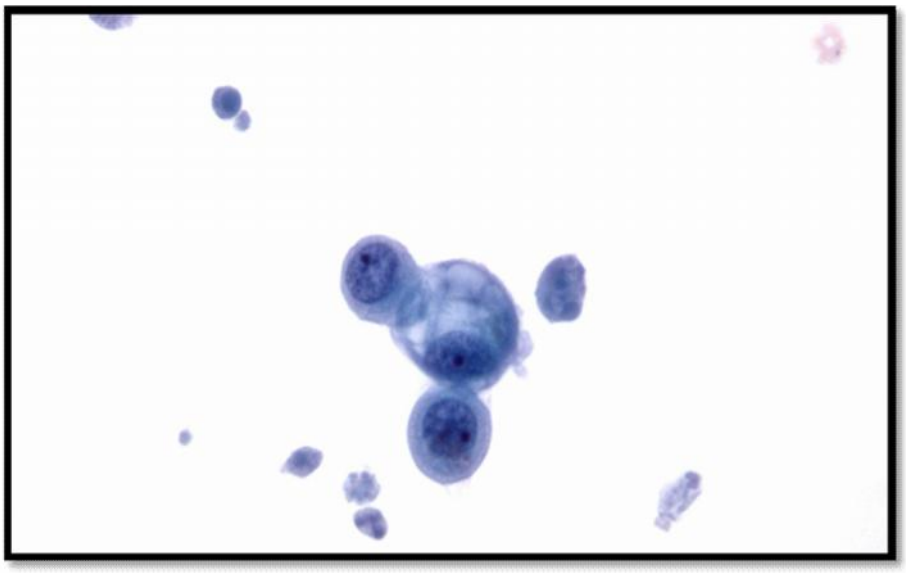
Cyclical Mastalgia :1. The patients comes to clinic with clinical mastagia are about 2-3 %.2. Distresing discomfort lasting for week or more .3. Usually in premenopausal women.4. Found in median age about 35 years.5. Episodes lasts for month.6. pain is bilateral but location is upper and outer quadrant. **[1]**

Non-cyclical Mastalgia :1. Seen in peri and postmenausal women.2. Burning or dragging pain.3. Heavy feeling in breast.4. well localised and defined as trigger-spot zone.

II) Breast lump:

1. Cysts :1. Found in perimenopausal women 2. Age 45-50 years .3. Found in the last decade of life.4. Single presentation.5. Multiple cysts can be present.6. makes patient uncomfortable and painful.7. Increases pain before menses.8. On palpation smooth and dense.9. Mobile. [7]

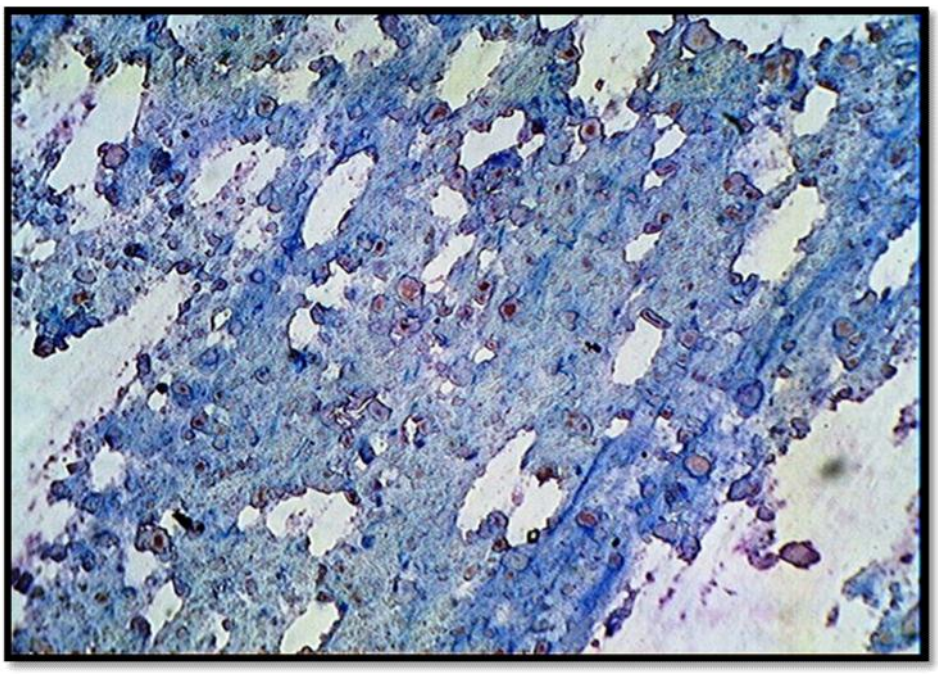
Cytology :1. Epithelial fragments of usual epithelial cells.2. Single bare oval or bipolar nuclei.3. Aposrine metaplastic cells, macrophages.4. Variable amount of cysy fluid.5. Sheets of ductual epithelial cells.6. Cyst macrophages have abundant vacuolated cytoplasm.7. Nuclear outline is smooth and chromatin pattern is uniformly granular.8. Apocrine metaplastc cells have abundant ,dense, finely granular eosinophilic cytoplasm. [7]



2. Galactocoele:

Definition : It is a true cyst of breast lined by cuboidal epithelium and containg milk like fluid.1. It is uncommon lesion.2. assosciated with hormonal stimulation or pituitary odema.3. found in patients who have ceased lactation.4. Milky discharge from the nipple in the begining.5. Thick greenish discharge in late cases. [8]

Cytology : The aspirate appears yellow white, blood tinged and curd like. These are histocytes, foam cells and debris as well as cuboidal or low columnar lining cells with vacuolated cytoplasm and vesicular nuclei. [8]



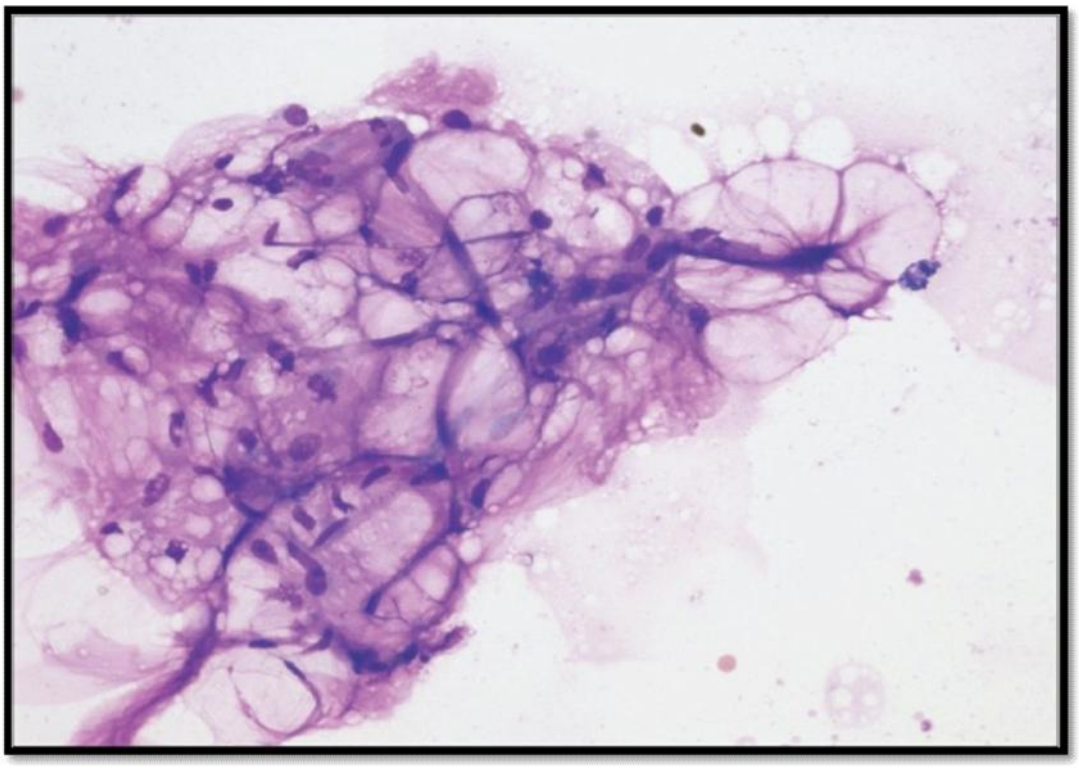
3. Sclerosing adenosis :1. mobile and smooth mass.2. Age between 30-50 years.3.painful frequently.4.mastalgia. [9]

Cytology :1. The smears are moderately to marked cellular.2. Small to large groups of benign epithelial cells.3. Scattered single epithelial cells.4. Loss of cell cohesion and mild nuclear atypia.5. Single bipolar nuclei are usually present.6. More abundant cellularity, acinar sheets, single epithelial cell. [9]

4. Lipoma:

Clinical features : 1. A well defined rounded soft mass ,with empty sensation on needling.2. Hypertrophy of soft tissue. 3. Tender mass on palpation. [10]

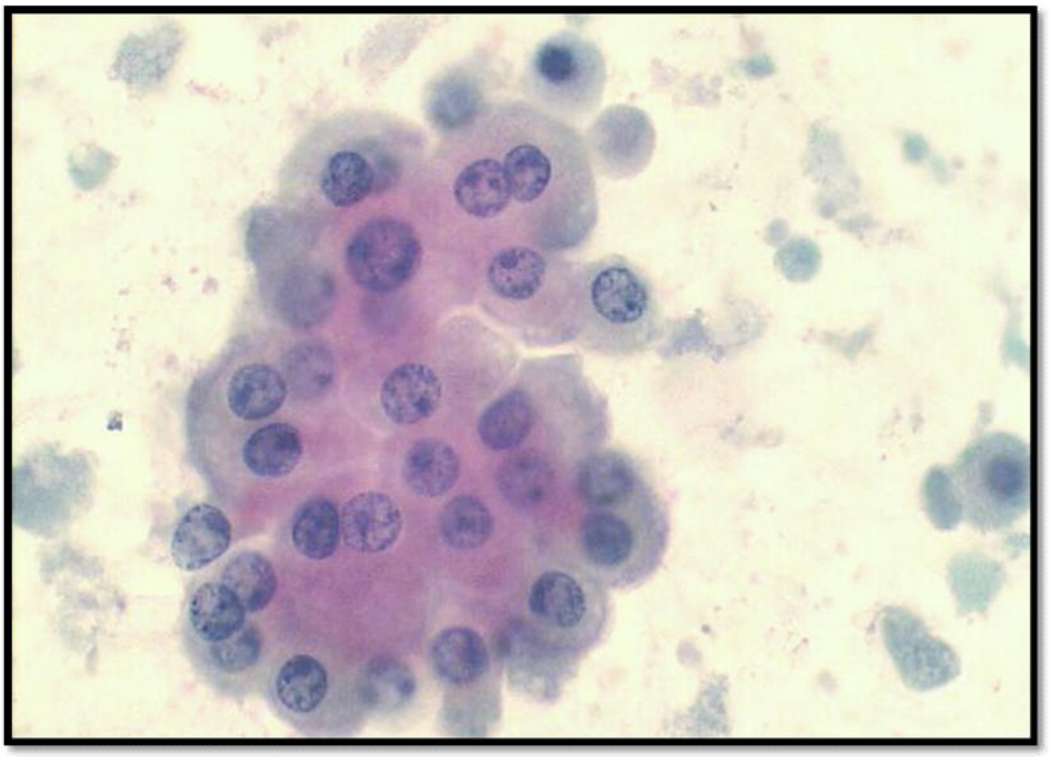
Cytology : 1.Fat vacuoles 2. Fragments of adipose tissue. [10]



5. Mammary duct ectasia :1. appears after menopause.2. lump is diffuse.3. sometimes nipple retraction.4. thick and creamy discharge.5. Sometimes greenish discharge present.6. sometimes bloody discharge.7. mastalgia present.

Cytology : The aspirate shows amorphous material and debris along with chronic inflammatory cells, occasional monolayered sheets of duct epithelial cells are not noted.

Mammary duct ectasia



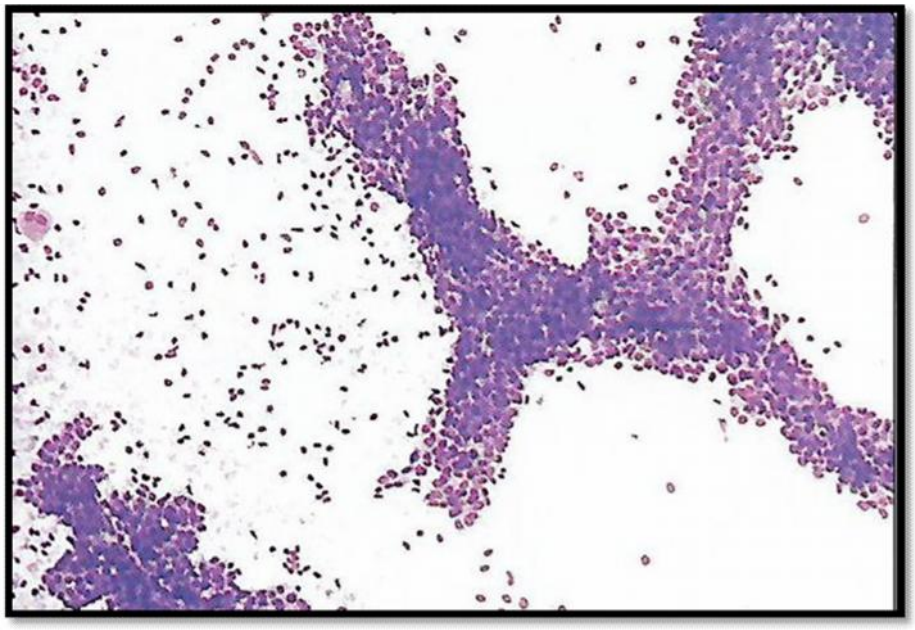
BENIGN NEOPLASIA:

1. Fibroadenoma:

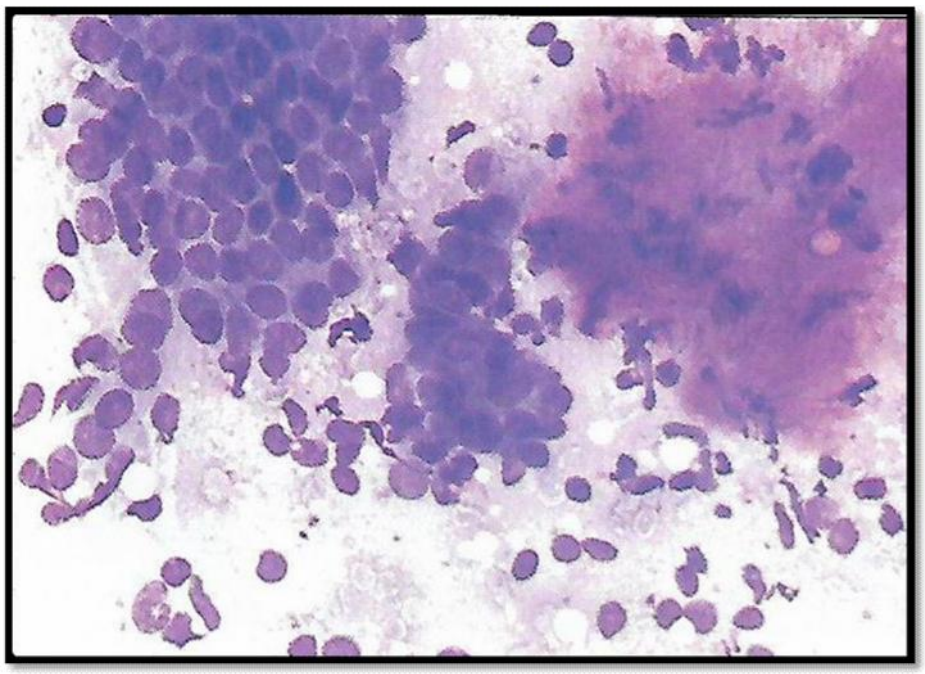
Clinical features : 1. usually found in younger girls 15-30 yrs.2. Intracanalicular fibroadenoma found in 30-50 yrs.3. Painless4. slowly growing.5. solitary lump in breast.6. In 10% of cases multiple fibroadenomata may be present.7. pain found in associated fibroadenosis.8. Intracanalicular fibroadenoma grows rapidly and tends in large size. [12]

Cytology : 1. A bimodal pattern of non-neoplastic breast tissue.2. Epithellial fragments regularly arranged.3. Cohesive cells are large, elongated and in branching pattern.4. Stag horn like appearance of the cells.5. Nuclear crowding and overlapping. 6. The nuclei are uniform with bland granular chromatin.7. Single, bare, bipolar or oval nuclei scattered in background. [12]

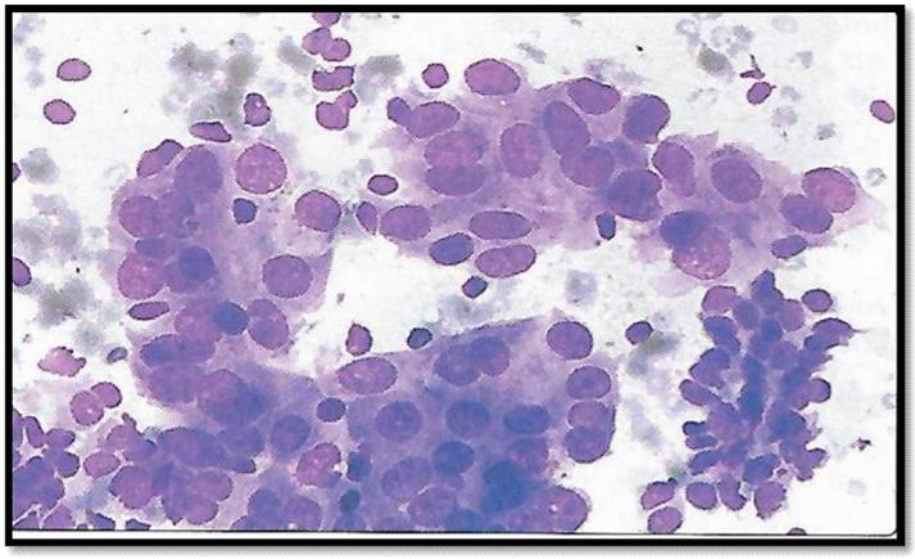
Fibroadenoma



Fibroadenoma



Epithelial atypia in fibroadenoma

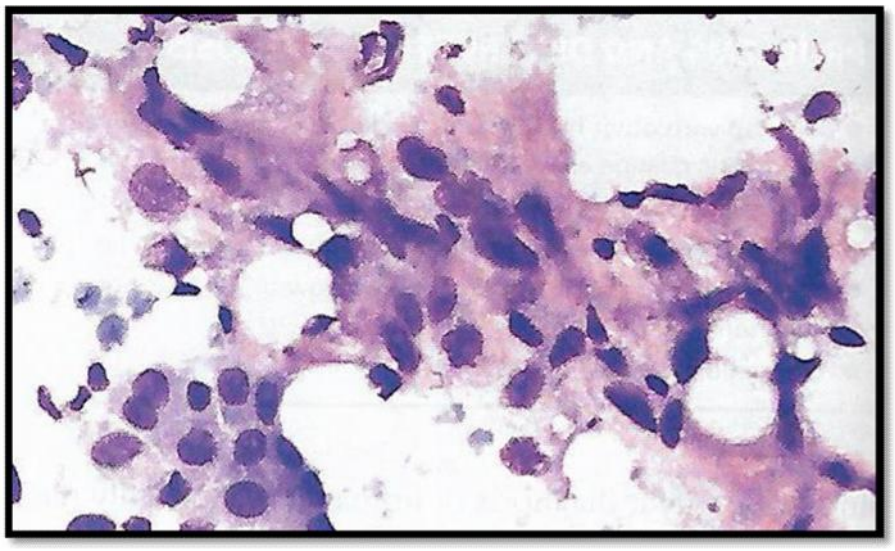


2. Phyllodes tumour:

Clinical features :1. found in Premenaupausal women around 40 yrs. of age.2. Sometimes occur in younger age.3. Grows rapidly. [12]

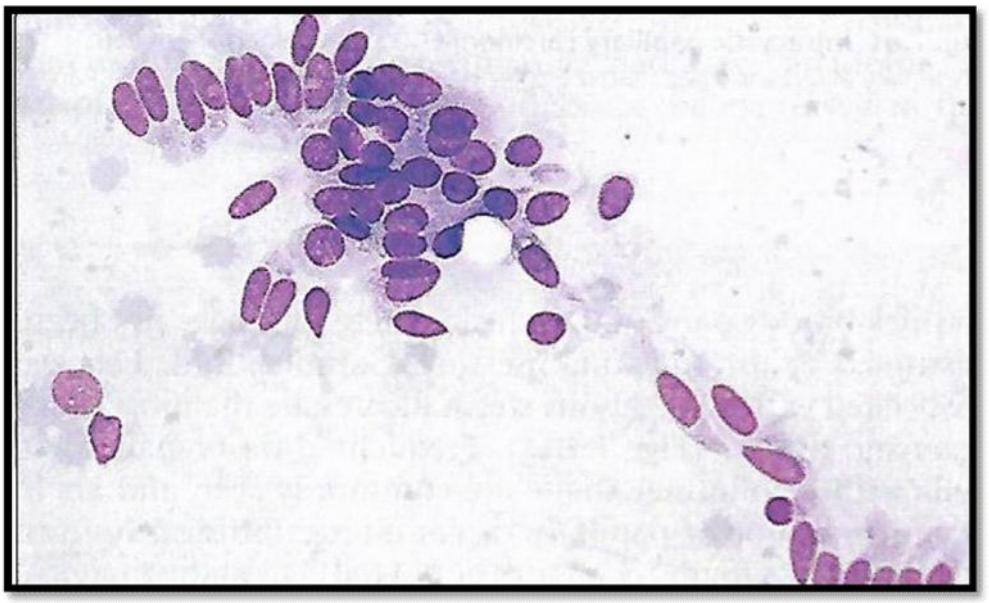
Cytology :1. Stromal fragments are larger and increased in number.2. The single stromal cells in the back ground are plumper than oval bare nuclei.3. These single cells are intact spindle cells.4. Nuclear atypia with nucleoli and pleomorphism. [12]

Borderline phyllodes tumour



3. Duct pappiloma :1. Found in 30-50 yrs.2. Discharge is bloody from nipple.3. Dark blood stained fluid or serous fluid may be discharged.4. Soft tumour.5. Difficult to palpate.6. Small mass below nipple, with bloody discharge.7. Occasionally retracted nipple.8. Affected regional lymph nodes. [14]

Cytology :1. The cellularity is moderate to high.2. Vacuolated cresent shaped nuclei.3. Pleomorphic nuclei.4.Prominent nucleoli. [14]



MALIGNANT NEOPLASAMS OF THE BREAST:

1. Ductal carcinoma of the breast:

1. Ductal carcinoma in situ:

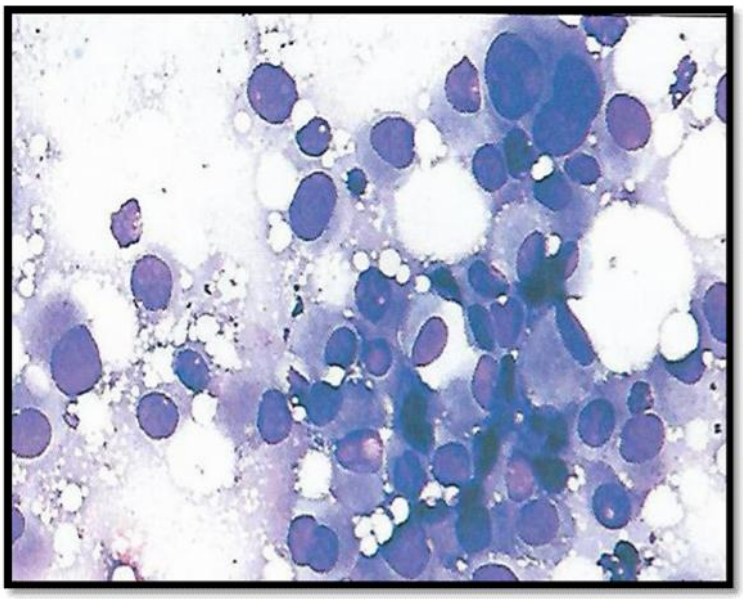
Definition: It is defined as proliferation of malignant epithelial cells, within the confines of the intraductal spaces with no microscopic evidence of stromal invasion. [15]

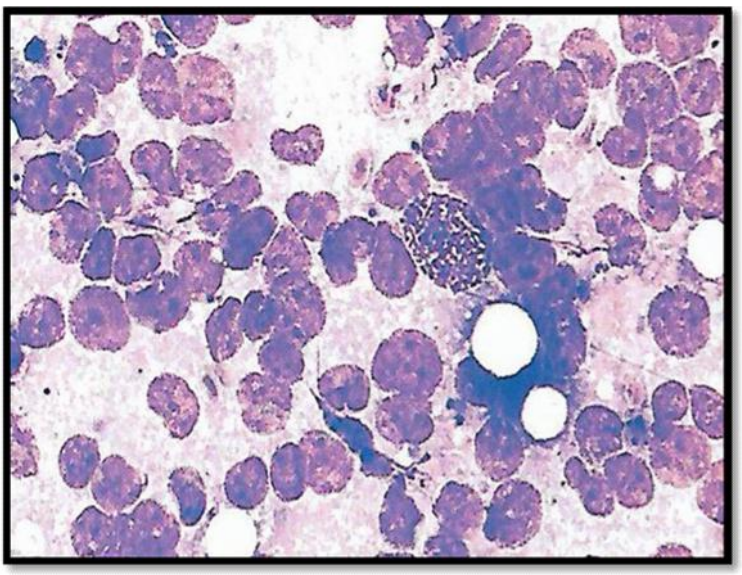
Clinical features :1. A Small palpable lump.2. Palpable lump sometimes absent.3. The ducts may expands to 1-2 mm in diameter.4. Solid or comedo type is common.5. Papillary or cribriform types forms papillary projections in tumour. [15]

Cytology :1. Assesment of nuclear grade(high, intermediate, and low)2. Presence of necrosis.3. Calcification.4. High nuclear grade lesions are cytologically malignant.5. High nuclear grade reveals cell rich smears.6. Neoplastic cells in sheets,

irregular agreegates.7. Large pleomorphic cells shows malignant nuclear features.8. Necrotic debris, lymphocytes, and vacuolated macrophages present. [15]

IDC:Intermediate grade and advancedgrade.





2. Invasive ductal carcinoma:

Definition:

The aggressiveness of ductal carcinoma is to some extent depends upon the relative amounts of non-invasive and invasive growth. The amount of the intraductal carcinoma is at least four times greater than that of the invasive component.

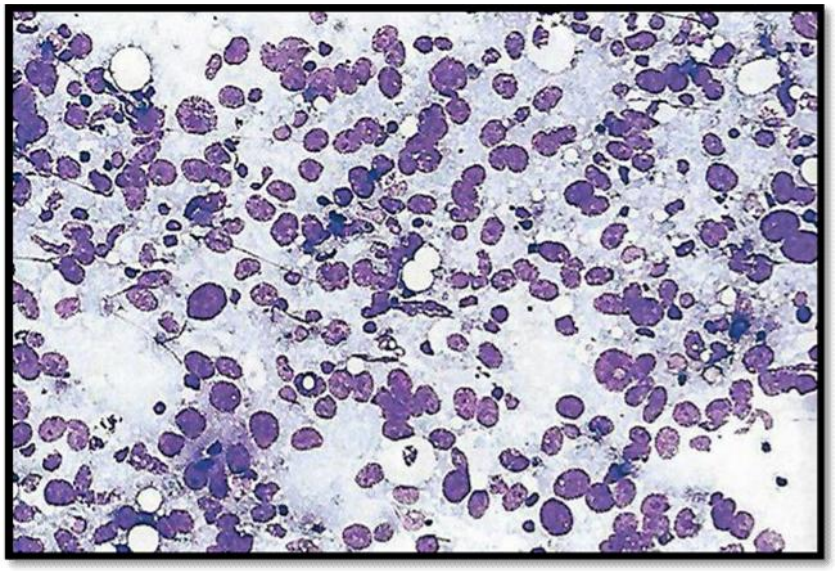
a) Infilterating ductual carcinoma with productive fibrosis :1. This type is present in 70% in invasive mammary cancers.2. Found in peri or postmenauposal women.3. Solitary, Nontender. 4. Firm and ill-defined mass.5. Poorly defined borders. [16]

Cytology: 1. A high cell yield.2. A single population of atypical epithelial cells.3. Reduced cohisiveness of epithelial cells.4. Nuclear enlargement and irregularity of variable degree.5. Iregular angulated clusters of atypical cells.6. Single cells with intact cytoplasm.7. Absence of single bare nuclei of benign type. [16]

b) Medullary carcinoma:

Definition: Medullary carcinoma is defined as a well circumscribed carcinoma in the breast composed of poorly differentiated cells with scanty stroma and prominent lymphoid infilterates. 6-12% of all breast cancers. Cancer is soft, and with uniform consistency. Deep and mobile. Bilaterally found in less than 1/5th of the cases. [17]

Cytology :1. Pleomorphic nuclei 2. prominent nucleoli. 3. Numerous lymphocytes admixed with plasma cells. [17]



3. Tubular carcinoma:

Definition : It is a well differentiated carcinoma consisting of well formed tubules distributed in a fiberous stroma. Found in only 3% of all breast cancers. Well

differentiated, small cancer. Seen in peri-menopausal and early menopausal women.4. Hard with radical appearance. Mostly detected by screening only. [18]

Cytology :1. Mild to moderate atypia.2. Cells arranged in angular groups or singly.3. The chromatin pattern is bland.4. The myoepithelial cells are absent.5. Tumour cells infilterating between fat provides a diagnosis of carcinoma.6 Relatively uniform , atypical epithelial cells.7 Epithelial fragments with an angular or tubular shape. [18]

4. Mucinous Carcinoma:

Definition: It is characterised by large amounts of extracellular mucin sufficient to be visible grossly and recognisable microscopically surrounding and within the tumour cells.1. Seen 2% in all cancers.2. Bulky, and seen in elderly women. [19]

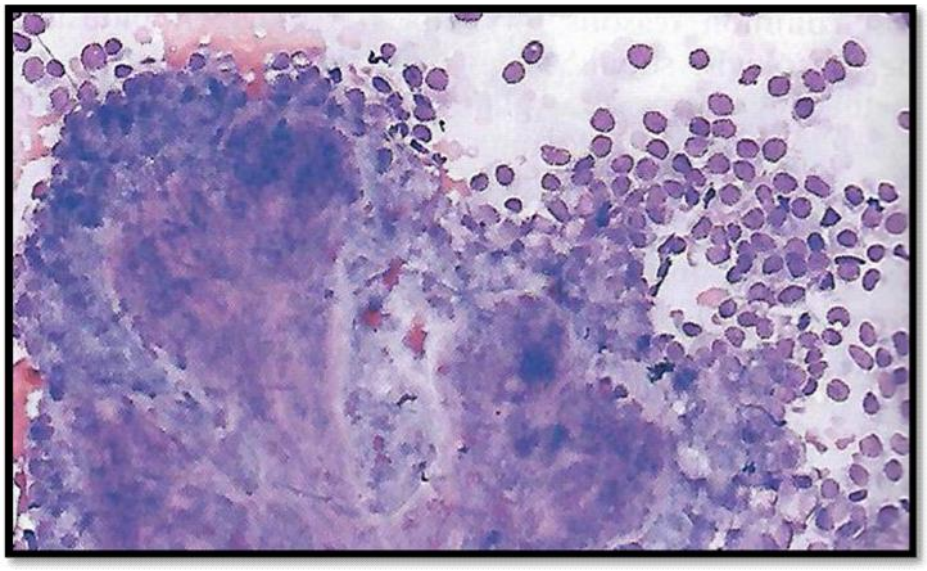
Cytology :1. Abundent background mucin.2.Atypical cells in small solid aggregates and single intact epithelial cells.3. Mild to moderate nuclear atypia.4. Benign epithelial cells and bipolar nuclei absent5. Abundent of material,cell dispersal and absence of bipolar nuclei is definite diagnosis of malignancy. [19]

5. Papillary carcinoma:

Definition: It is an infiterating carcinoma with a predominant papillary pattern. It is a rare breast malignancy. Arise in the central parts of breast. Nipple discharge is present. Bleeding from nipple is present in most of patients. The size of tumour ranges from 2-10 cm. Large cystic mass fixed to the skin. [20]

Cytology :1. Smears were moderate to highly cellular complex branching papillae.2. Multiple small intracytoplasmic vacuoles in tumour cells. 3.Complex branching papillae4. The cells are lined by low or tall columnar cells.5. The cells having mild to moderate atypia. [20]

Intraductal papillary carcioma



6. Adenoid cystic carcinoma:

Definition ;Adenoid cystic carcinoma is also called as cylindroma is an invasive carcinoma with a cribriform pattern forming glandular and pseudoglandular spaces.

Found in adult women. But mean age varies from 50-63 years. Palpable firm mass . Right and Left breast are equally affected. [21]

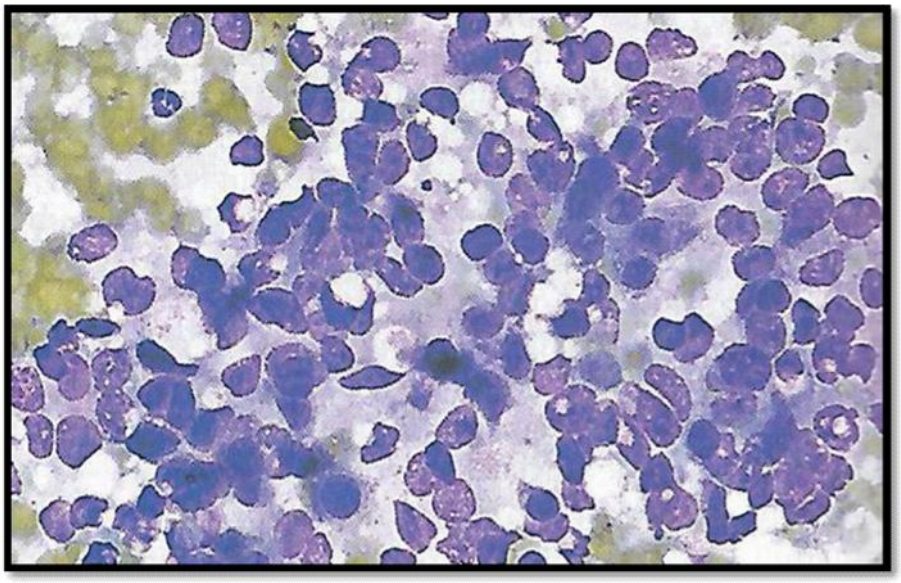
Cytology :1. Cellular smears shows clusters of epithelial cells.2. Surrounded by solid spheres of basement membrane material.3. Nuclear enlargement and hypochromasia is present. [21]

II) Lobular carcinoma of the breast:

1. Lobular carcinoma in situ : Never forms a palpable mass. Can be found by chance in biopsy for other reason. No typical mammographic finding. [22]

Cytology :1. Moderately cellular sample.2. Loosely cohesive clusters of atypical epithelial cells with mild nuclear atypia.3. Cells small with prominent nucleoli.4. Definite diagnosis is made by histopathology. [22]

Infilterating lobular carcinoma



2. Invasive lobular carcinoma :1. Found in 10%of all breast.2. Clinically equal tumour as IDC.3. Poorly defined firm, mass.4. Bilateral5. Multicentre.6. Multifocal.7. Very difficult to diagnose.8. Prognosis is better than IDC. [23]

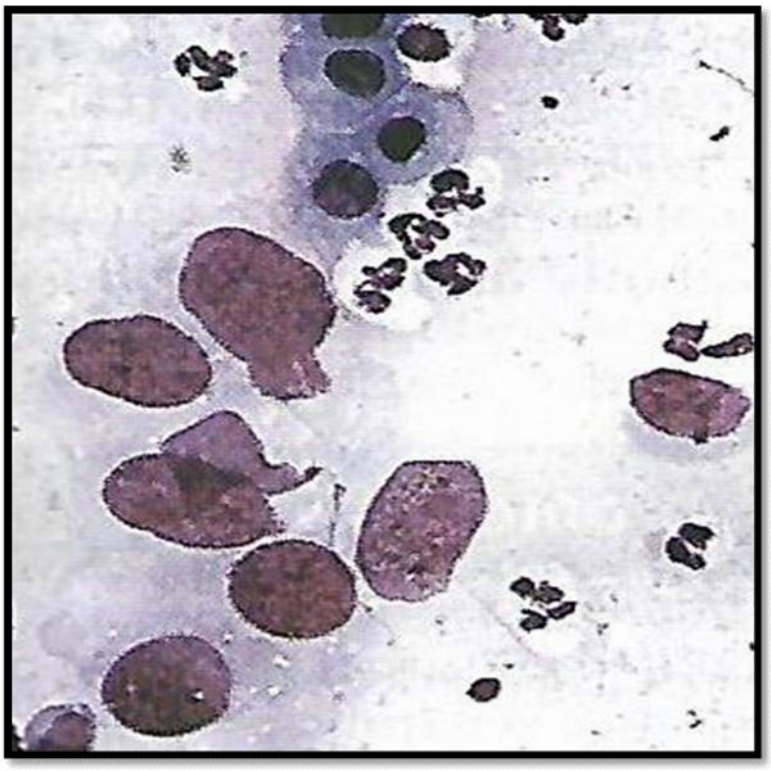
Infilterating lobular carcinoma:

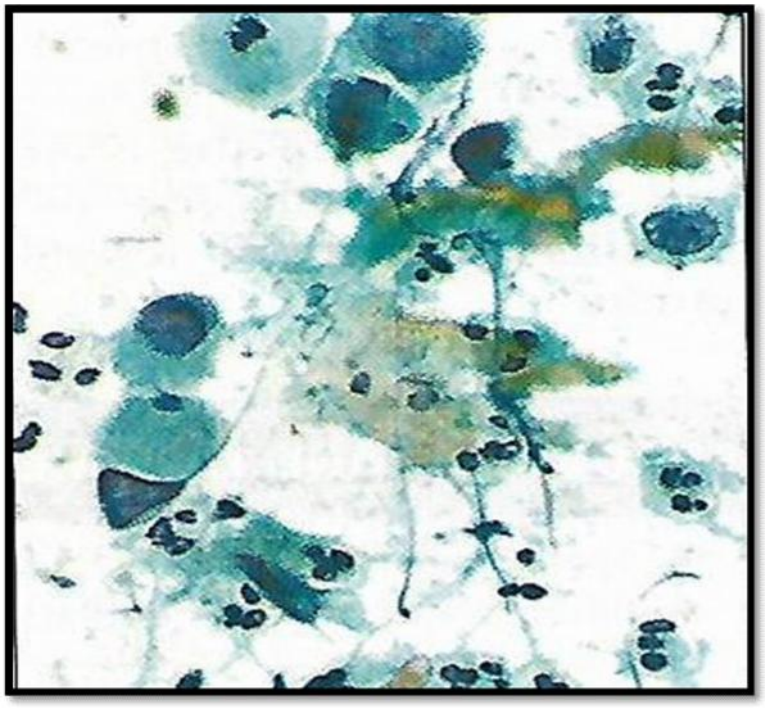
Cytology :1. A variable,often poor cell yield.2. Cells single and in small clusters.3. Scanty cytoplasm,many naked nuclei.4. Small hyperchromatic nuclei of uniform size.5. Signet ring cells.6. Thick eosinophilic background. [23]

Paget,s disease:1. Intermitent haemorrhage 2.Itching 3.Burning 4.Tenderness. 5.Involves nipple and areola.6.Palpable mass.7. Subareolar area is involved.8. Axillary node metastasis.9. Better prognosis than other carcinoma found earlier. [23]

Cytology :1. Back ground of keratin, squamous cells, inflammatory cells and debris.2. Large malignant cells, singly or in small groups.3. Abundent pale cytoplasm with distinct borders.4. Obvious nuclear features of malignancy.5. Scrape smears from the nipple are an excellent way to diagnosis. [23]

Paget's disease:

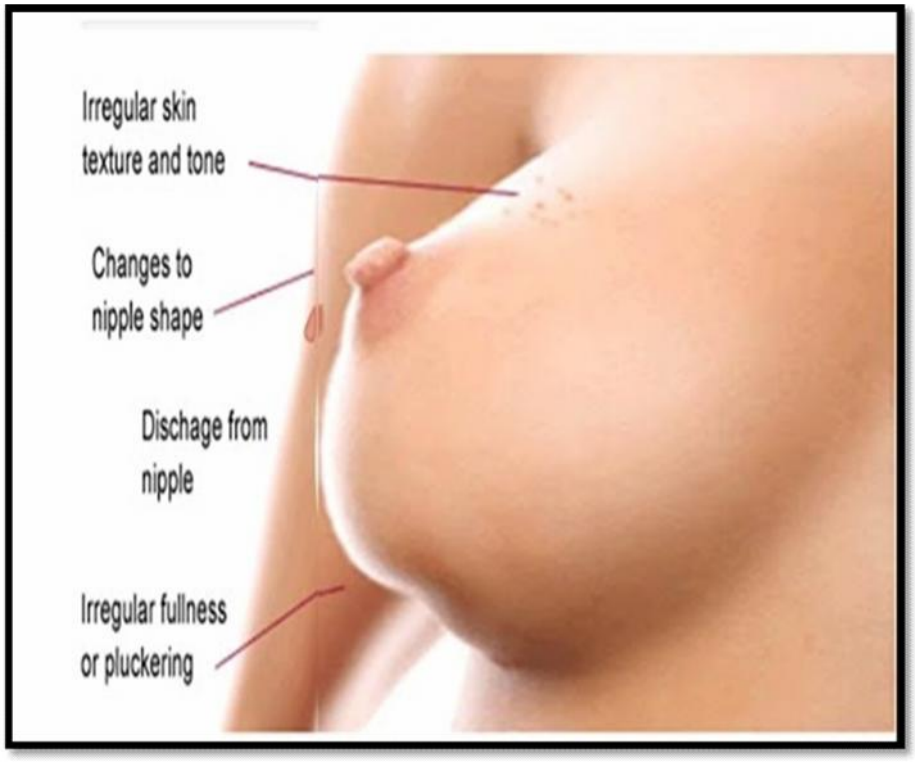




Inflammatory carcinoma :1.Cellulites of breast.2. Redness. 3. Pain4. Swelling of involved breast.5.Diagnosis is not easy from acute mastitis.6.Axillary lymph node involvement.7. Frequently occurs during lactation.8. So known as lactational carcinoma.9.Grave prognosis. [24]

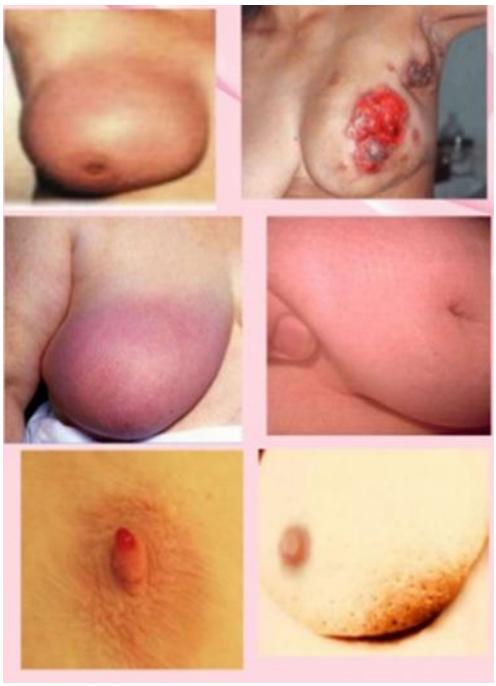
Cytology :1. The tumour cells occur in small aggregates.2. It shows malignant pleomorphism.3. Inflammatory cells not seen.4. A diagnosis made but small amount of material. [24]

Common clinical features of carcinoma :1. Breast cancer is found at any age after puberty. 2. Painless lump in breast. 3. Commonly found in upper outer quadrant.4. A lump should be suspected for carcinoma.5. Bigger mass gives rise to pain.6. Only inflammatory carcinoma is painful.7. Pain is found in advanced cases.8. Discharging nipple is not usual.9. But in IDC blood discharge is common.10. Retraction of nipple.11. Metastatic symptoms as backache, haemoptysis, chest pain, dyspnoea, jaundice ascitis, enlarged axillary or left supraclavicular lymph node.



Features of malignant mass

- Hard
- Painless
- Irregular
- Possibly fixed to skin or chest wall
- Skin dimpling
- Nipple retraction
- Bloody discharge
- Peu d orange



1. Abnormalities of growth and development:

1. Ectopia:

There are two general patterns. a) Supernumerary breast tissue b) Abberant breast tissue.

a) Supernumerary breast tissue:

Definition: These are persistence of epidermal thicking extending from axilla to perineum both below and above normal breast anterior axillary fold. Mejority of the patients with clinically apparent supernumerary breast tissue have unilateral axillary involvement. They show changes of menstrual cycle and pregnancy as in the normal breast. The disorders reported in normal breast rarely arises in heteropic breasts but a case of medullary carcinoma of breast was reported in axillary tail. In such situations it is really difficult to differentiate the condition whether it is primary or metastasis to axillary lymph node. [25]

Cytology :A variable picture depending upon state of development is seen. They show clumps,and sheets of benign dutual epithelial cells in monolayer,

proteinaceous, and small groups of acinar cells may be present.Histologically it reveals ducts and lobules of normal mammary. [25]

b) Aberrant breast tissue:

Definition: It is defined as mammary glandular parenchyma found in the region of, but beyond the unusal anatomic extent of breast. It doesn't form nipple and aeriola and rarely apparent clinically unless it is involved by pathogenic process.

2. Macromastia:

Definition: Excessive breast growth is described as macromastia. It may be due to unusual response to hormonal changes during puberty or large size may be due to variation in body habitus.Gravid macromastia develops, rapidly shortly after the onset of pregnancy. Histologically there is greatly increased collagen and fat and epithelial hyperplasia with ducts is present in minority of cases.

3. Amastia and hypoplasia:

Definition : Amastia is extreme form of hypoplasia. It is the complete absence of one or both the breast. It is the least common developmental anomaly. Histologically in hypoplastic breast there is fibrous stroma and ductual structures without acinar differentiation.

Inflammatory and reactive lesions : In Indian report infective diseases were responsible for more than 13 % of benign lesions.

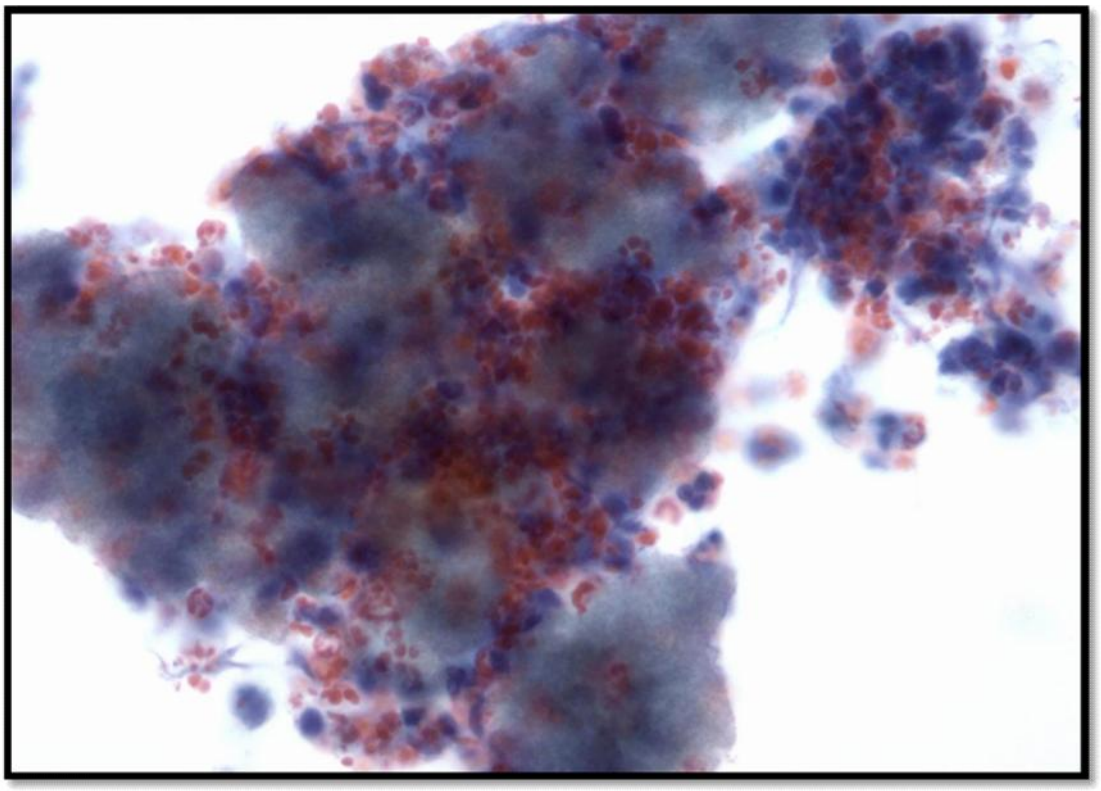
1. Breast abscess:

Definition:

Breast abscess is defined as an acute inflammatory lesion of breast which yielded pus on incision. In case of breast abscess occurring in lactating breast, there is obstruction of one of the major lactiferous duct. [26]

Clinical features: Patients with fever, pain, and increased tenderness in the breast.

Cytology: 1. A benign, bimodal pattern, inflammatory cells chronic as well as acute and regenerative epithelial atypia. 2. Abundant neutrophils, histocytes. 3. Multineucleated giant histocytes.4. Few denerating epithelial cells. [26]



2. Subareiolar abscess:

Definition : The subaeriolar abscess results from duct obstruction caused by squamous metaplasia in the terminal portion of one or more lactiferous ducts.

Clinical features:

Patients presented with pain, localised swelling, erythema, and induration. Duration of symptoms varied from 1 day to 9 years. [27]

Cytology:

It shows a purulent inflammation,keratin flakes,debris and mature squamoua cells. [27]

Cholesterol ,crystals and strips of squamous epithelial cells. [28]

3. Non-specific chronic mastitis:

a) Granulomatous lobular mastitis:

Definition: Granulomatous lobular mastitis is a term that has been proposed for a granulomatous inflammatory process of the breast characterised by the presence of noncaseating granulomas confirmed by the breast lobules.

Clinical Features:

Young parous patient presented within 1-6 years after pregnancy with firm to hard painful mass in extra-areolar region. [29]

Cytology:

Cytology reveals epithelioid histocytes, multinucleated giant cells and many plasma cells. [30]

b) Mammary duct ectasia:

Definition:

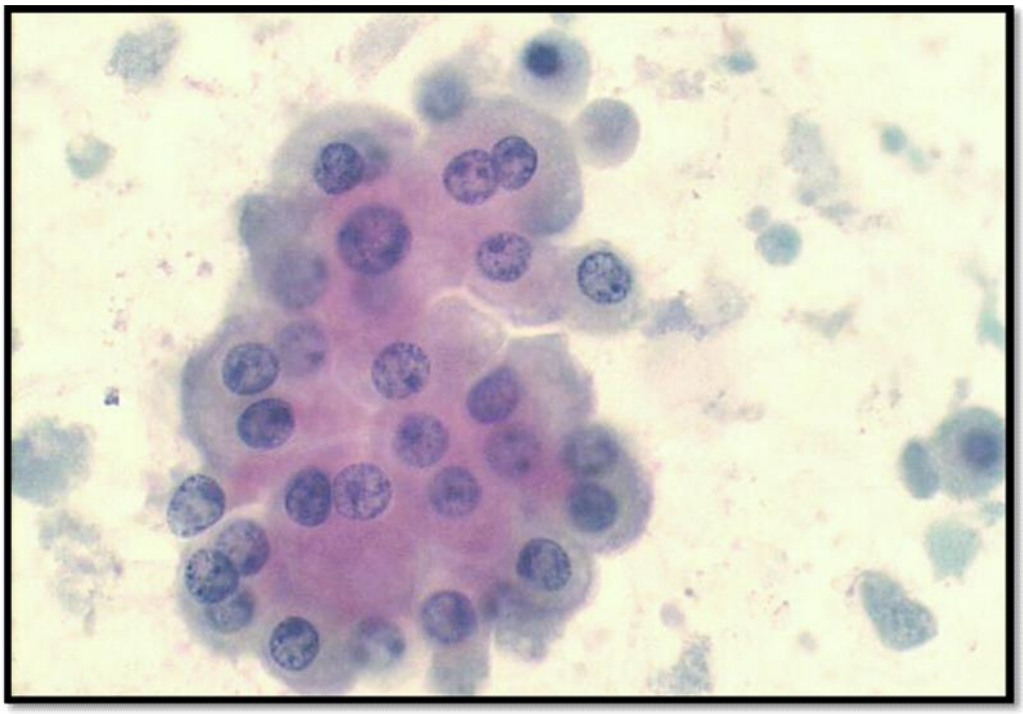
Mammary duct ectasia is a benign condition in the aging breast characterised by dilation of collecting ducts in the subareolar region of the breast and with surrounding fibrosis and inflammation. The diagnosis is made on clinical findings. [29]

Clinical features:

Most of the cases are pre-menopausal parous women with poorly defined palpable peri-areolar mass,sometimes with skin retraction and nipple inversion. Nipple discharge is present in 20% of the cases. [29]

Cytology:

A thick cheesy, creamy aspirate showing amorphous material and debris along with chronic inflammatory cells, occasional monolayered sheets of uniform duct epithelial cells are also noted. [29]



c) Fat necrosis:

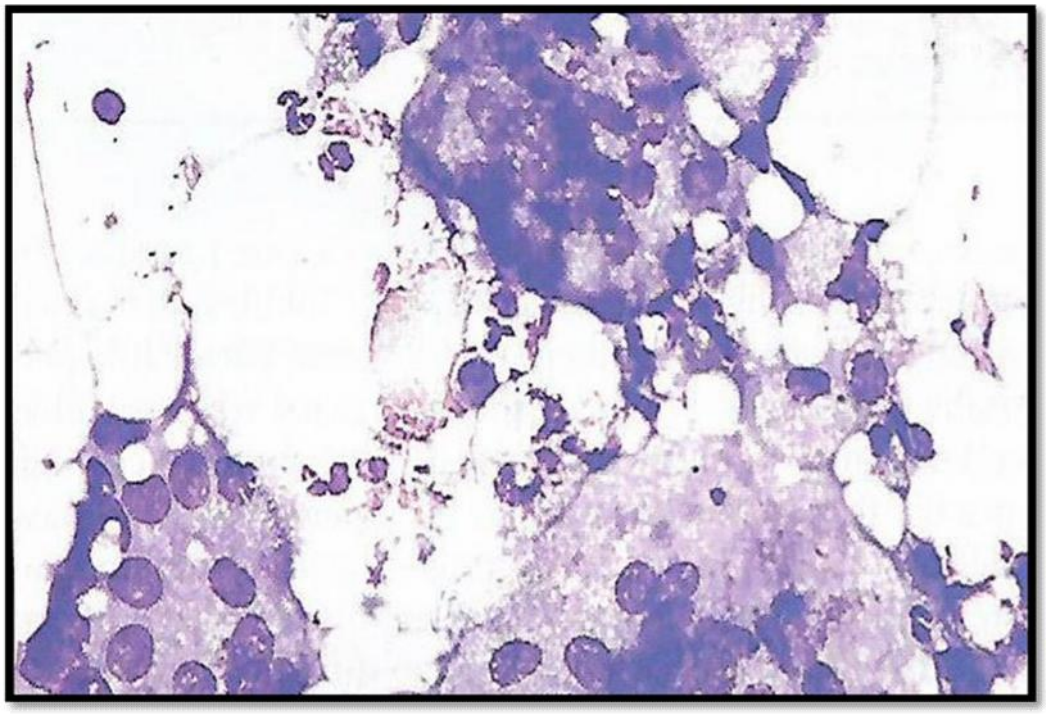
Definition:

It is focal necrosis of fat tissue in the breast due to trauma followed by an inflammatory reaction.

Clinical feature:

It frequently occurs in the overweight females with penduoma breast. Patients affected usually of age range from 27-80 years. Usually small sized tumours approximately 2 cm diameter, painless, firm accompanied by retraction of nipple and dimpling of the skin. [30]

Cytology :1. A dirty background of granular debris,fat droplets.2. Fragments of adipose tissues present.3. Chronic inflammatory cells found.4. Foamy macrophages present.5. The presence of multinucleated gaint cells .6. There are adipocytes with bubbly cytoplasm.7. The epithelial cells are absent. [30]



d) Diabetic mastopathy:

Definition: It is fibrous tumour forming stromal proliferation in patients with diabetes mellitus.

Clinical features : Usually present in females with rare exceptions in males. There is palpable, firm to hard tumour in one or both breasts. The lesion tends to be ill-defined and non tender. Directly palpable uni-bilateral mass. [31]

Cytology: 1. Ductal epithelial cells in clusters. 2. Lymphocytes and epitheloid fibroblast identified in connective tissue fragments. 3. Dense keloid scarring and interlobular lymphocytic infilterates, characterised by lymphocytic lobulitis, ductitis, and perivasculitis with stromal fibrosis.[32]

4. Specific mastitis:

a) Tuberculous mastitis:

Definition : It is primary or secondary tuberculous infection of the breast.

Clinical features : Though tuberculous mastitis can affect at any age ,but primarily it is disease of premenopausal women that have lactating breast. It presents as a painless breast mass of insidious onset with or without axillary involvement. Breast odema present with an extensive involvement of axillary lymph nodes. The least common presentation is with a breast abscess with or without sinus tract drainage. Multiple lumps are less frequent,indistinguishable from carcinoma,irregular and hard,fixed to the chest wall or skin, very painful. Peau'd orange is often seen in patients with extensive axillary nodular tuberculosis.[33]

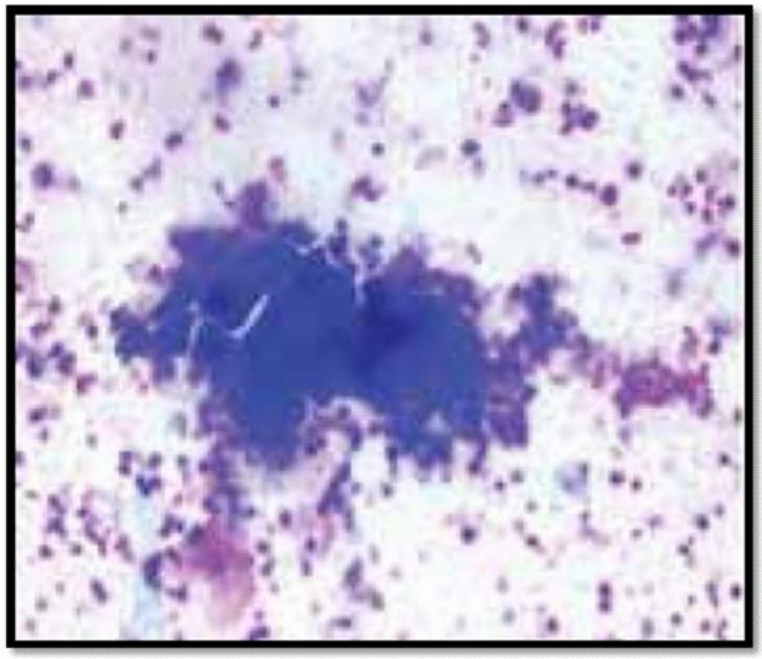
Cytology :1. Epitheloid cells, multinucleated langhans giant cells, plasma cells.2. Foamy macrophages and neutrophils, lymphocytes and necrotic debris. [34]

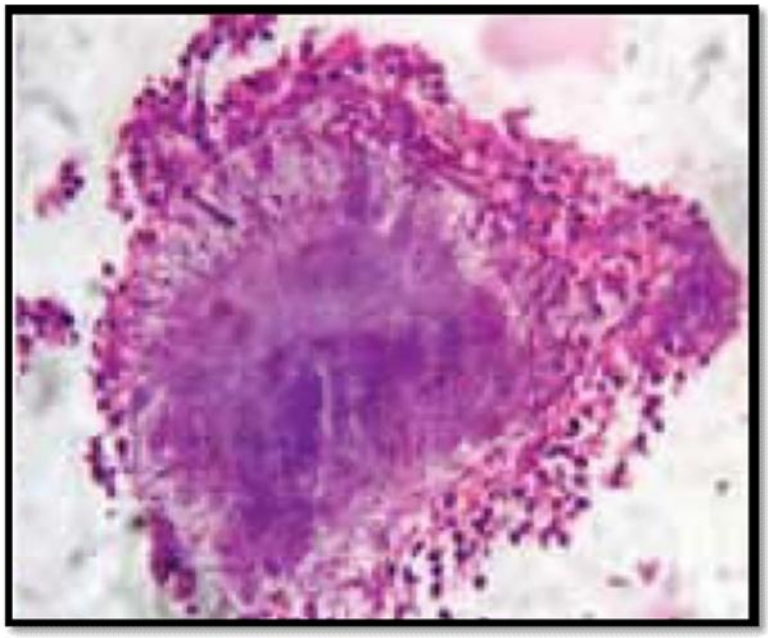
b) Actinomycosis:

Definition : Actinomycosis of breast typically presents as an abscess beneath or near nipple and areola. The sinus tract develops following incision and drainage, when diagnosis unsuspected clinically. When sinus tract is not present the abscess present as a hard mass simulating a carcinoma. For diagnosis a causative organism Actinomycosis which is a gram positive organism as a filament or colonies in tissue section or in fine needle aspirate or in a sinus tract drainage should be present. [35]

Cytology: 1. Mixed inflammatory cell exudates and pluffy colonies.2. Actinomycotic colony surrounded by inflammatory infilterates. [35]

Actinomycosis





c) **Fungal infection:** Breast has been rarely reported as a site for fungal infections.

Histoplasmosis: of the breast may be associated with healed foci of this lesion elsewhere i.e.liver, lung, spleen, and other organs. The lesions are confluent necrotising granulomas in which Histoplasma capsulatum was demonstrated by metamine silver reaction.

Blastomycosis: Blastomycosis dermatitidis was isolated frompara-areolar abscess which shows purulent granulomatous infection with destruction of the breast tissue, epithelloid cells.

Cryptococcosis: The presentation may be with or without cryptococcosis of other sites. Breast mass with or without skin infilteration or pain may be present.

a) **Parasitic infection :** Mammary cysticercosis is caused by Taenia solium. The lesions are cystic and containing diagnostic scolices within protruding mural nodules.

c) **Hyadatid disease:** The breast is an infrequent site for hyadatid cyst. The causative organism is Echinococcus granulosus.

d) **Fileriasis:** Filariasis of the breast is caused by mostly Wuchereria bancrofti.Sometimes microfilarae are detected in the nipple secretions. Also microfilaria and gravid adult worms can be detected in fine needle aspirates from breast lesions.

e) **Viral mastitis:** It is a very rare condition.

f) **Foreign body granulomas:** Parffin injected or cosmetic purposes and silicon breast implants can give rise to foreign body granulomas. Painless, hard and movable lump are present. Nodules are soft, moist and granulomas. [36]

Cytology: 1. Lymphocytes.2. Macrophages3. Giant cell reaction with associated fibrosis 4. Foreign body giant cells.5. Foci of dark brown,finely granular material.[36]

g) **Sarcoidosis:** Sarcoidosis may involve breast occasionally. Systemic sclerosis can affect breast, usually young women of 20-30 years of age.

Mixed connective tissue and epithelial tumours:

1. **Cystosarcoma:**

Definition: It is uncommon neoplasm composed of benign epithelium and hypercellular stroma.

Clinical features : 1. Firm tumour. 2. Hard, descret palpable tumour.3. Rapid growth.4. Huge mass.5. Dilated veins on surface. [37]

Cytology:1. Epithelial component typical of a fibroepithelial neoplasm.2. Excess of bipolar stromal cells in the background.3. The large cluster of connective tissue cells.4. Hyperchromatic nuclei with prominent nucleoli are seen. 5. Combination of stromal elements,tissue fragments,or single spindle shaped cells and epithelial cells are present. [37]

3. Carcinosarcoma:

Definition: The carcinosarcoma is best reserved to describe malignant neoplasm in which the carcinomatous and sarcomatous elements can be traced separately to epithelial and mesenchymal origins. It is a rare malignant tumour of breast. This mass grows rapidly, very rare tumours. [38]

Cytology: 1. Poorly differentiated malignant epithelial cells and mesenchyamal elements. [38]

Soft tissue tumours: A variety of soft tissue tumours arise in the breast.

Stromal sarcoma:

Definition: Stromal sarcomas are thought to arise from interlobular mesenchymal elements that constitute the supporting mammary stroma.

Clinical features: Painless breast mass. Rapid increase in size. Long standing mass. Skin retraction. Ulceration. Nipple discharge. Nipple retraction. Axillary lymph nodes are rarely involved. [39]

Cytology :1. Fragments of highly cellular stromal tissue.2. The spindle shaped tumour cells have basophilic cytoplasm.3. Dark pleomorphic elongated spindle nuclei.4. Giant cells and necrotic material. [39]

Tumour like lesions :

1. **Inflammatory pseudomotor :**Localised nodular lesions of the breast consisting of fibrovascular stroma with a prominent inflammatory infiltrate composed mainly of plasma cells and lymphocytes has been diagnosed as inflammatory pseudotumours.

   They are secondary to foreign body reactions and can be observed following previous surgical interventions, talc granulomas or prosthetic materials or in

traumatic fat necrosis which consisists of a foreign body reaction to fat with varying amounts of scar tissue.

2. **Hamartoma**:

Hamartoma is a mass of disorganised but mature cells of tissues to the particular sites.

Gynecomastia: Enlargement of the male breast is gynecomastia, the most common clinical and pathologic abnormality of the male breast.

Cytology:1. Grossly they resembled fibroadenoma2. Mammary glandular tissue with a prominent lobular arrangement.3. Fibrous stroma and fat in variable proportion.

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FINE NEEDLE ASPIRATION CYTOLOGY

REVIEW OF LITERATURE ON FNAC:

The application of cytological criteria for tumour was illustrated by Donaldson as early as 1853.He compressed the piece of tissue and examined the oozing juice under microscope without staining. Firstly this technique of aspiration cytology was first given in Arab Medicine in their references. [1]

Though the technique of fine needle aspiration to diagnose cancer was first used in U.S. by Guthire in 1921, Martin and Ellis 1930 are generally credited with introducing the technique. By 1934 they performed 1400 aspiration biopsies including 280 breast cancers. Unfortunately the technique was not widely accepted at that time. Three years later in 1933 Stewart who had examined 500 aspirates advocates use of FNAC for differentiation of fat necrosis, fibroadenoma and abscess from carcinoma. [2]

In 1968 Franzen and Zajicek reported from Sweden on 3,479 aspirates and after that fine needle aspiration biopsy became an accepted diagnostic procedure.In the post war Europe the procedure was first reviewed by Lopez Cardozo and Sonderstrom instead of 18 gauze needle used by Martin, they used 22 gauge and higher with an external diameter of 0.6 mm or less which has become today's most popular technique. In India the articles published were 374 during 1975-2002 and fine needle were used in all the centers. Though core needle biopsy is an extremely valuable tool, the FNAC remains the first choice for initial investigation and diagnosis of both superficial and deep breast lesions. [3]

FNAC soon became accepted and integrated in the diagnostic routines by the team of pathologists.So that it is a part of service in all sophisticated departments of pathology. [4]

FNAC as a tool in clinical investigation:

In primary diagnosis in the last 30 years or so has been very successful.The clinical value of FNAC is not limited to neoplastic conditions.FNAC is having importance also in diagnosis of inflammatory, infectious and degenerative

conditions.The another application is intraoperative cytology. It is also valuable to frozen section examination. [5]

Advantages and limitations:

FNAC gives advantage to patient as well as doctors. The technique is rapid, safe, invasive and also not expensive to the patients. It can be done in out patient department,but it is not substitute for surgical histopathology. A definitive diagnosis sometimes may not get, but the catagorisation and the differencial diagnosis can be achieved by the same. This method is applicable in all the lesions which are superficial and easily palpable.But this technique has some limitations.Firstly result and accuracy are mostly depends on quality of samples and smears.so that proper traning and expert experience is required for the perfect diagnosis. [5]

The basic requirement for FNAC [6] :

1. **Equipment :** Sterile syringe,needle (thickness (0.5-0.9mm) Needle can be attached to the syringe for hand grip.

2. **Syringes and syringe holder** : Standerd disposable plastic syringe.

3. **Containers and slides :** Very clean and sterile glass slides, dry and free of grease,slides with frosted ends for immediate lebelling.

4. **Fixatives and stain:** Smears are dried and wet fixed. Routine wet fixation by 70-90 % ethanol. Haematoxylin and eosin or papanicoloau stain can be used.

5. **Patients preparation :** The procedure clearly explained to the patient.Her written consent should be taken. Supine position is required for FNAC. Simple skin disinfectant is required for sterilisation.

6. **Aspiration procedure :** The mass is immobilised with one hand,without the piston of the syringe being retracted,the needle is inserted into the mass.The cells are then aspirated into the needle. The needle is then inserted from different angles if the material is too scanty.Rlease the piston before withdrawing the needle. Then the collected specimen is expressed on to the clean prelebelled glass slides and spread evenly.

7. **Fixation and staining:** Fixation is done immediately and stained with papanicoloau stain or haematoxylin and eosin stain. The lesions which can not be localised by touch are visualised by means of ultrasonography.

8. **Staining of cytology :** The haematoxylin and eosin stain staining technique is used to define the structures of cells and tissues.

Staining Procedure [7] : Take a section down to water ,fix the smear by 70-90% etanol or spirit. Stain in haematoxylin and eosin stain. Rinse in a water for a few seconds. Differentiate in acid alchohol with continuous agitation for 10-15 seconds. Wash in running tap water for 5 minutes. Wash in running tap water for 30 seconds. Dehydrate, clear and mount.

Result: Nuclei : bright blue, Cytoplasm : pale pink, Muscle,keratin and colloid : bright pink.

Applications [8] :

1. A biopsy is performed on a lump or a tissue when its nature is in question.
2. For known tumours,to assess the effect of to obtain tissue for special studies.
3. Also FNAC is the main method used for chromic villus sampling [9] as well as for many types of body fluid sampling. It is also used for ultrasound-guided aspiration of breast of cells [10] of breast cysts, and of seromas. [11]

The decision to use FNAC [12] :

1. The size of the lesion.
2. The clinical characters of the palpable mass.
3. The characteristics of the lesion identified on imaging.
4. The likehood of achieving a definitive diagnosis.
5. The womens ability to tolerate more than one puncture.
6. The experience of the clinician performing the procedure.
7. The preference of the managing clinician.
8. The availability of pathologist experience in cytology.
9. The need for a rapid result.

Advantages [13] :

1. The sampling procedure is quicker.
2. It does not require local anesthetic.

3. It is generally less tromatic than core biopsy.
4. Fine needle aspiration associated with low complication rate.
5. Results are available quickly , within few hours.
6. Relatively inexpensive.

Indications for fine needle aspiration cytology [14] :

1. Investigation of palpable mass, regardless of wheather they are considered benign or malignant.
2. Investigation of impalpable image detected masses that are considered likely to be benign or with typically malignant features.
3. Evaluation of cystic lesion with atypical imaging features.
4. Confirmation of a diagnosis of breast cancer when core biopsy is not available.
5. Investigation of suspected local recurrence lymph node involvement.

Discussion with the patient involves following information [15] :

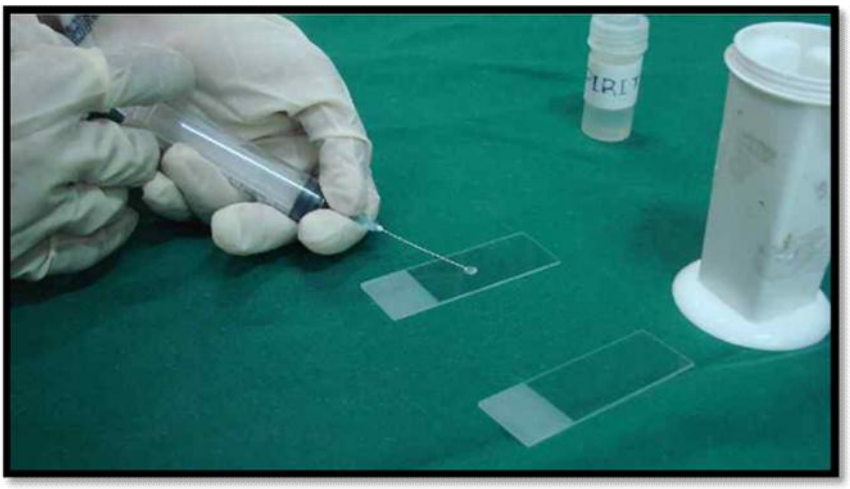
1. The purpose of the test.
2. How and by whom it is performed.
3. How long it will take.
4. Wheather any clinical conditions are present.
5. An assessment of degree of pain or discomfort to be expected .
6. How results will be interpreted.
7. How results will be influence the management of condition.
8. How results will be communicated to the patient.
9. What is the cost of test.

The consent procedure [16] :

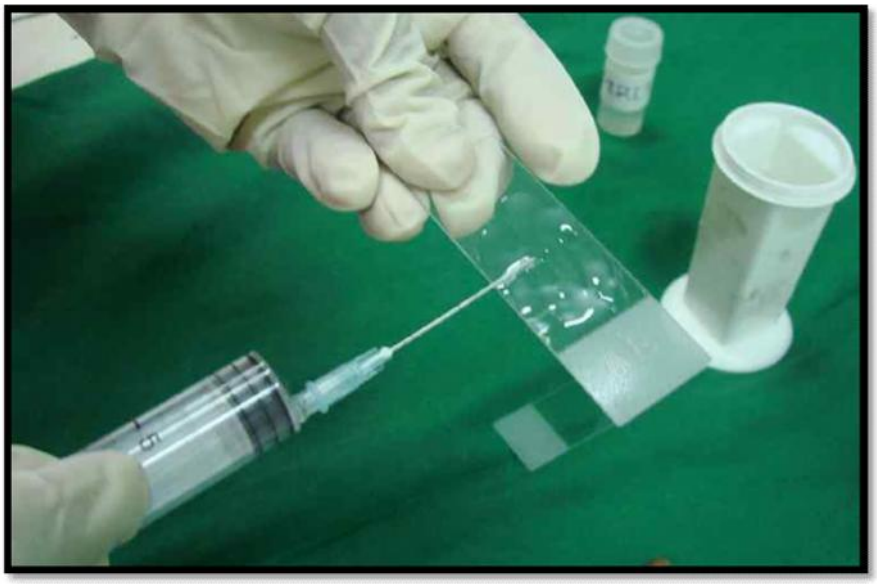
The clinician should encourage the women to ask questions until she is satisfied with the understanding of the information provided before she gives consent for the procedure.

Aspiration procedure

Prepation of Smear -1



Prepation of Smear -2



Staining of Smear

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BENIGN AND MALIGNANT TUMOURS FOUND IN THE PRESENT STUDY and DIAGNOSED IN CYTOLOGY LAB:

BENIGN TUMOURS:

1. Fibroadenoma.
2. Benign epithelial lesion.
3. Benign epithelial lesion with dysplasia.
4. Duct ectesia.
5. Galactocoele.
6. Lactadenoma.
7. Lipoma.

MALIGNANT TUMOURS:

1. Infilterating duct cell carcinoma.
2. Infilterating duct cell carcinoma with metastasis.
3. Fibrosarcoma.

BENIGN TUMOURS FOUND IN THE PRESENT STUDY WITH DIAGNOSIS BY FNAC:

The general signs and symptoms of the cases are given in short. The tumour appearance is written by clinical findings of the case. While doing FNAC, the appearance of the aspitare is written on the case paper. Observation of the cells is done with high resolution microscope to reach upto the final and confirmatory diagnosis. These are the findings observed while doing present research work in the cytology laboratoty.

COMMON FINDINGS AND OBSERVATION OF FNAC AT G.M.C., Nanded:

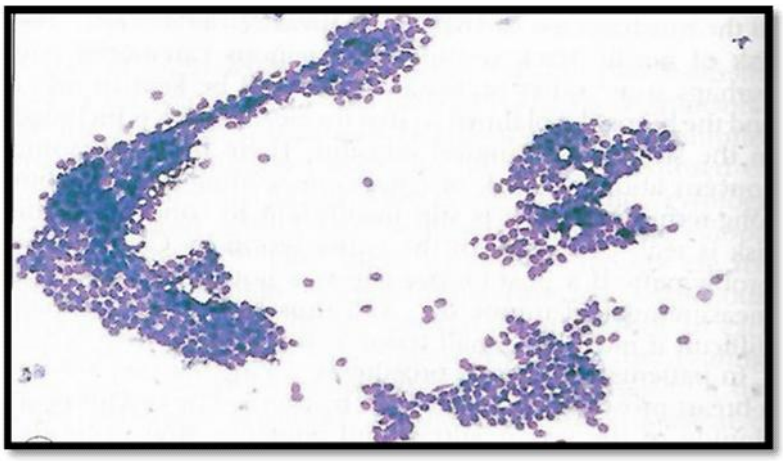
Benign tumour - FNAC common findings:

Normal breast lesion in benign tumours yields only fat, stroma and few benign ductual cells. At least 5-6 clusters of epithelial cells are seen.

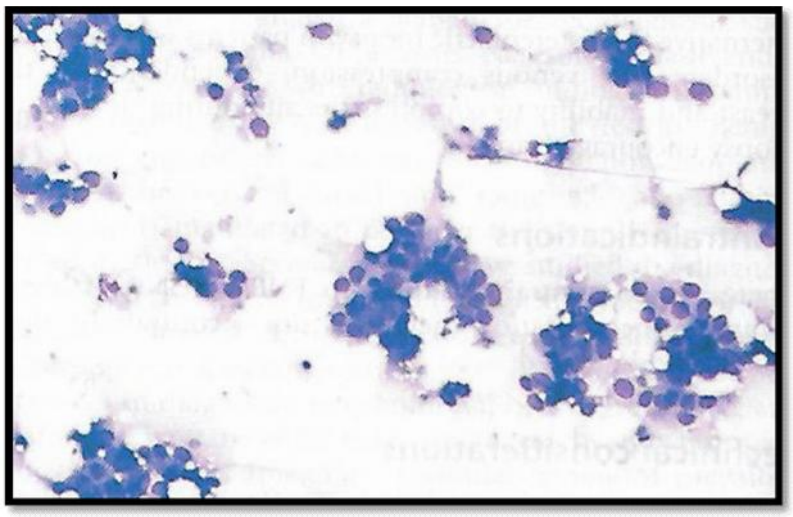
Malignant tumour –FNAC common findings:

Loss of cohesion, increase in cells,increase in nuclear size, irregularity of the nuclear membrane, clumping and uneven distribution of chromatin,multiple and abnormal nuclei,myoepithelial cells are abundant in the beginning.

Normal glandular breast tissue



Low grade duct cell carcinoma



1. Fibroadenoma:

Signs and symptoms in short: Painless and slowly growing tumour.

Tumour appearance: Firm, mobile, not tender, gradually increase in size, painless, no discharge.

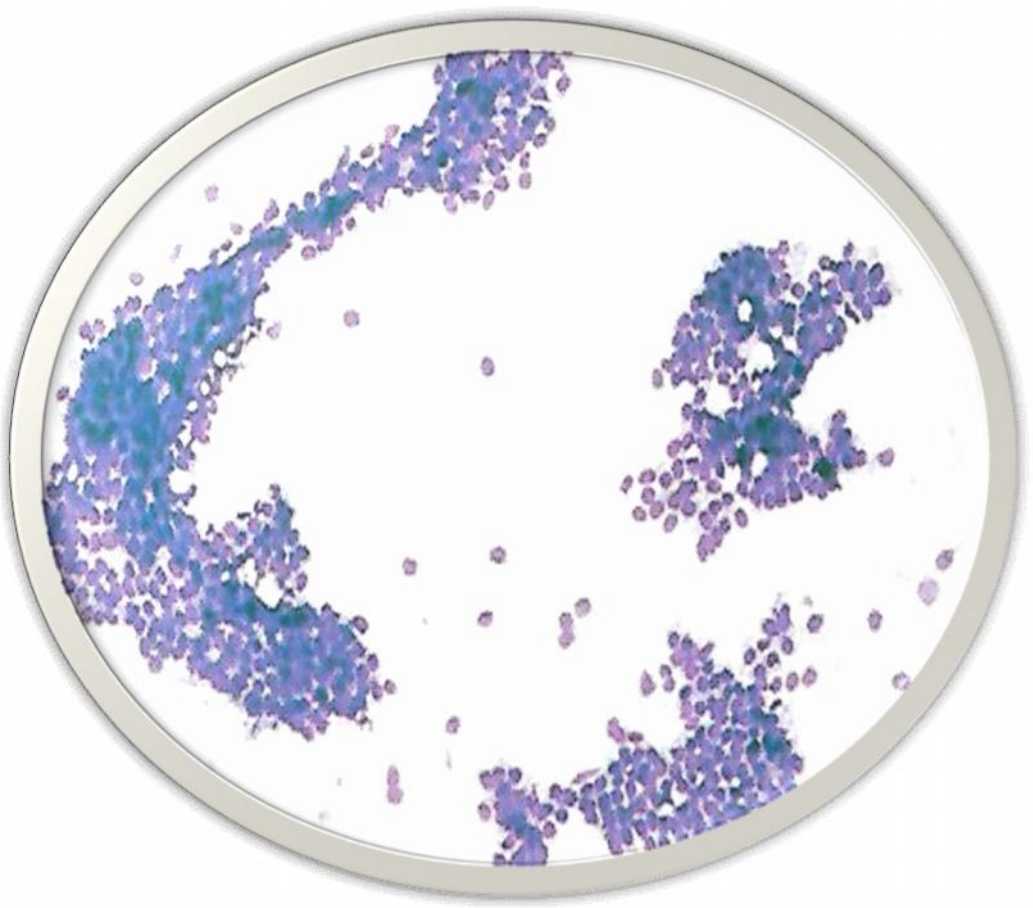
Fine needle aspiration: Greyish white aspirate.

Cytology: Smears show round to oval benign ductal epithelial cells with round neclei and moderate amoune of cytoplasm, arranged in groups, sheets and scattered. The background shows myoepithelial cells, bare nuclei, stromal fragments and hemorrhage. No e/o abnormal cells, No e/o malignant cells.

Impression: Fibroadenoma.

Photomicrograph taken at G.M.C. Lab Nanded

1) Fibroadenoma of breast



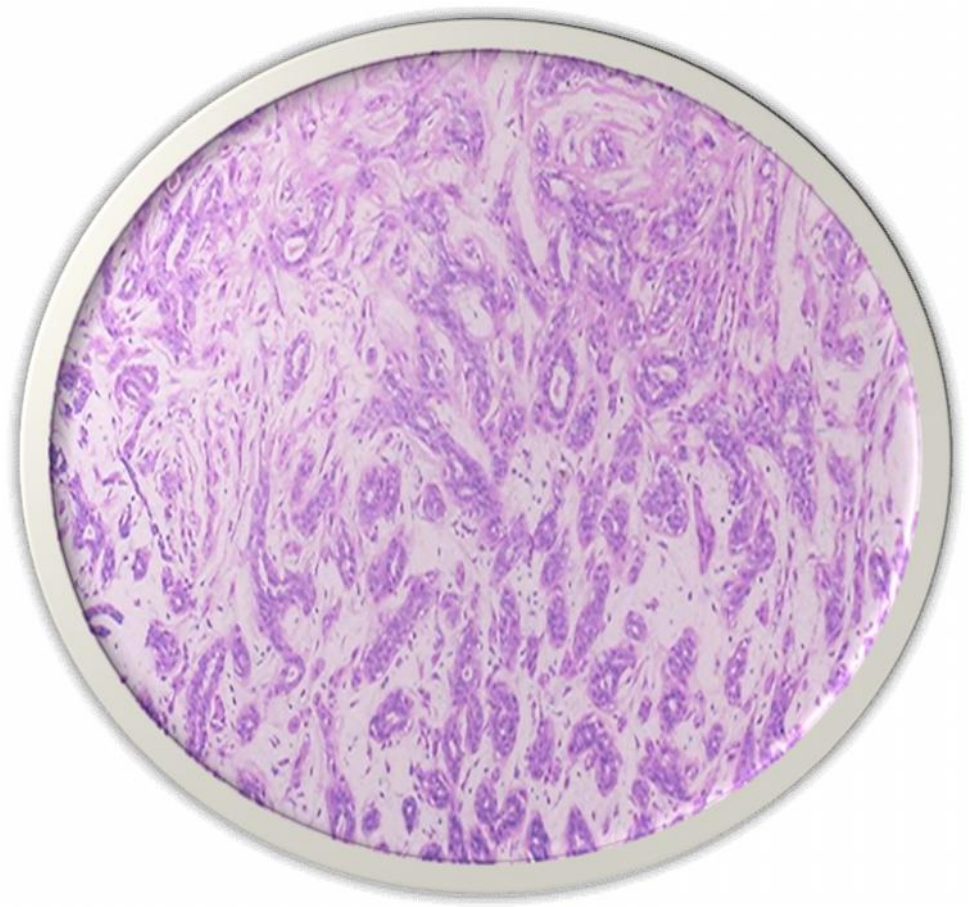
2. Benign epithelial lesion:

Signs and symptoms in short: Painless tumour, and gradually increase in size.

Tumour appearance: Firm, solitary, mobile, gradually increase in size.

Fine needle aspiration cytology: Moderately cellular smear show small and large epithelial cells along with scattered histocytes, lymphocytes, neutrophils, apocrine cells on haemorrhagic eosinophilic background. No e/o abnormal cells. No e/o malignant cells.

Impression: Benign epithelial lesion.



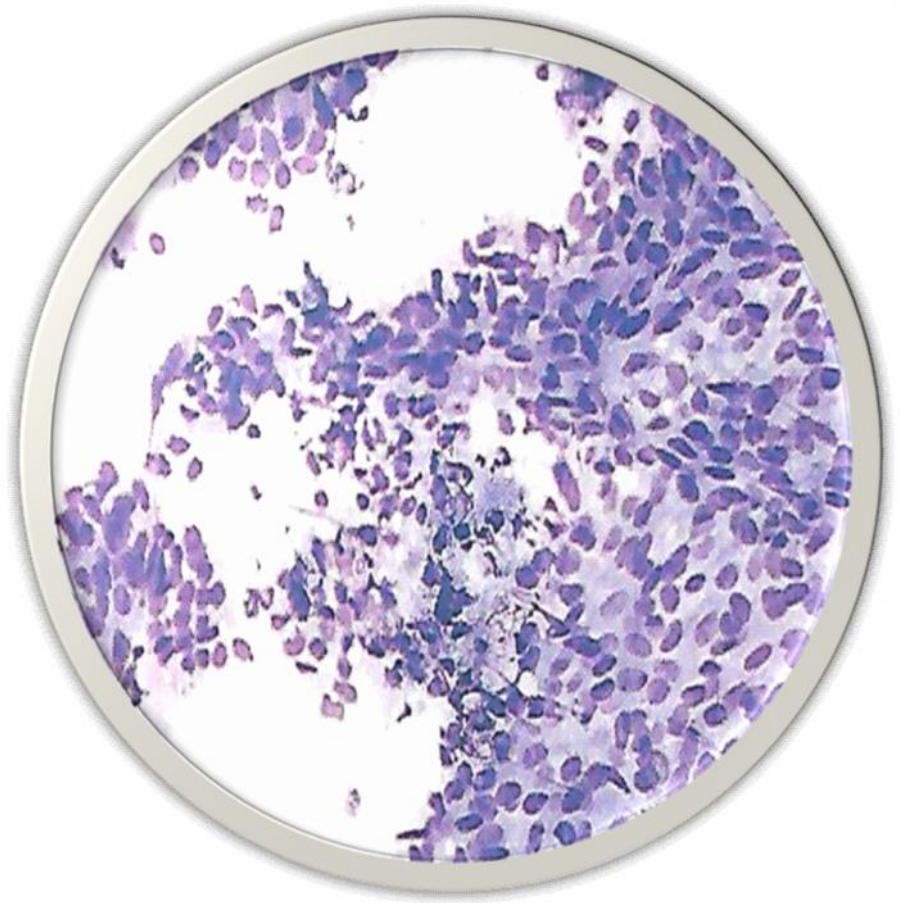
3. Ductal epithelial hyperplasia:

Signs and symptoms : Gradually increasing tumor

Tumor appearance : Firm , Mobile , not tendor.

Nature of aspirate : Greyish white

Cytology: moderately cellular smear show cohesive clusterd , groups , sheaths and singally scattered Ductal epithelial cells with round regular nuclei. Moderate amount of cytoplasm. At places cells show epithelial hyperplasia with large round oval nuclei and eosinophilic cytoplasm on haemorrhagic background material.



3. Benign epithelial lesion with dysplasia:

Signs and symptoms in short: Tumour with pain.

Tumour appearance: Firm, mobile, tender lump.

Fine needle aspiration: Greyish white aspirate in nature.

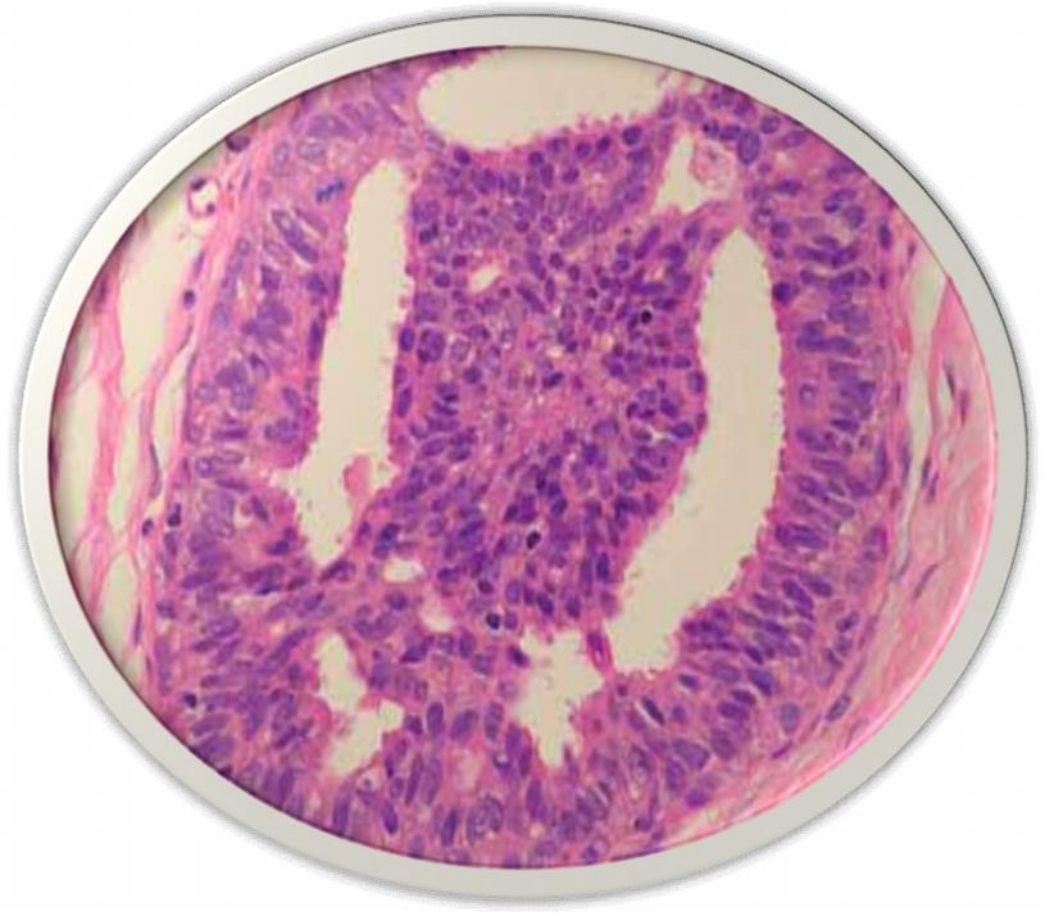
Cytology:

Moderately cellular smears show clusters, groups, sheets and singly scatteredly arranged ductal epithelial cells with round nuclei and moderate amount of

cytoplasm. At places, cells show epithelial hyperplasia with large round to oval nuclei and eosinophilic on hemorrhagic background material.

Impression: Hyperplastic epithelial lesion with dysplastic changes.

Adv: Excisional biosy and HPE correlation.



4. Duct ectasia:

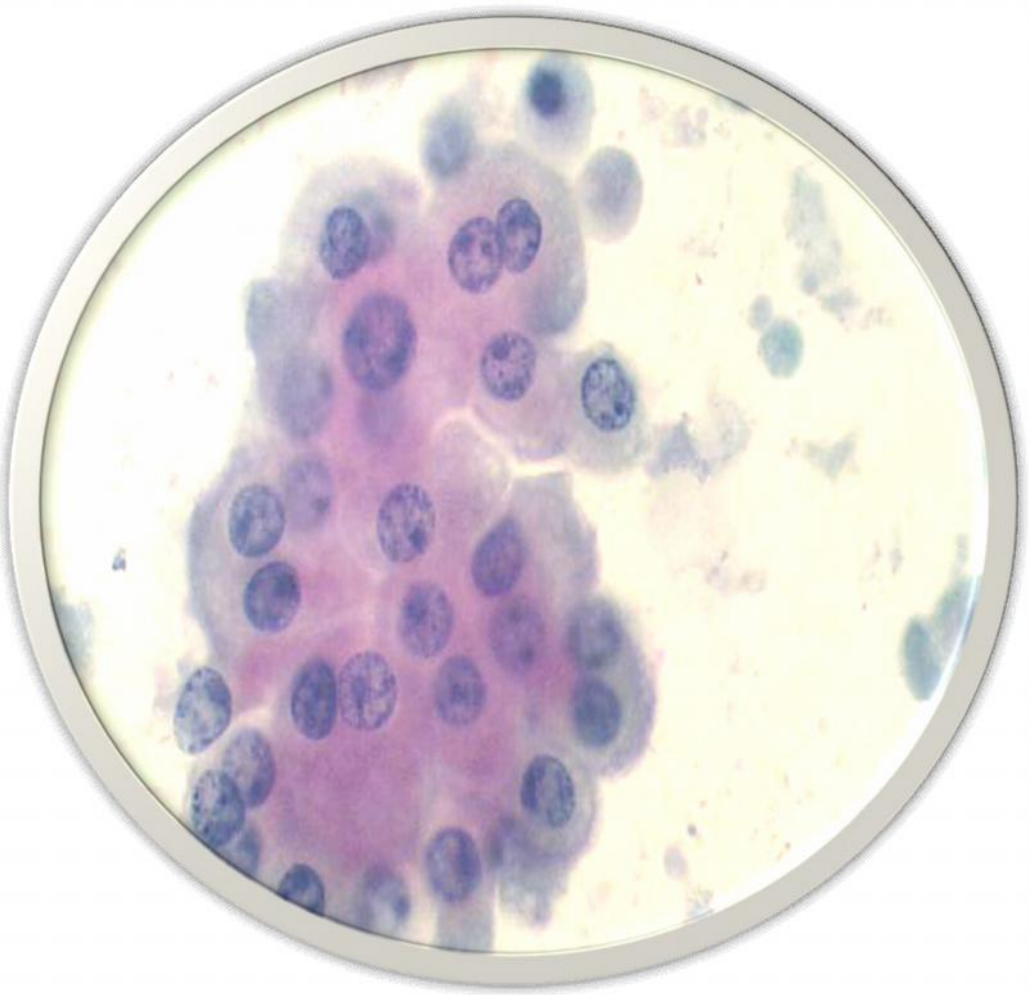
Signs and symptoms in short: Pain, gradually increase in size.

Tumour appearance: Firm, mobile, not tender, nipple retraction, whitish nipple discharge**.**

Fine needle aspiration:

Cytology: Moderately cellular smears show benign ductal epithelial cells on background of inflammatory cells like polymorphs, lymphocytes, histocytes, occasional cyst macrophages and giant cells. Few atypical cells are also seen.

Impression: Duct Ectesia. Adv: Biopsy.



5. Galactocoele:

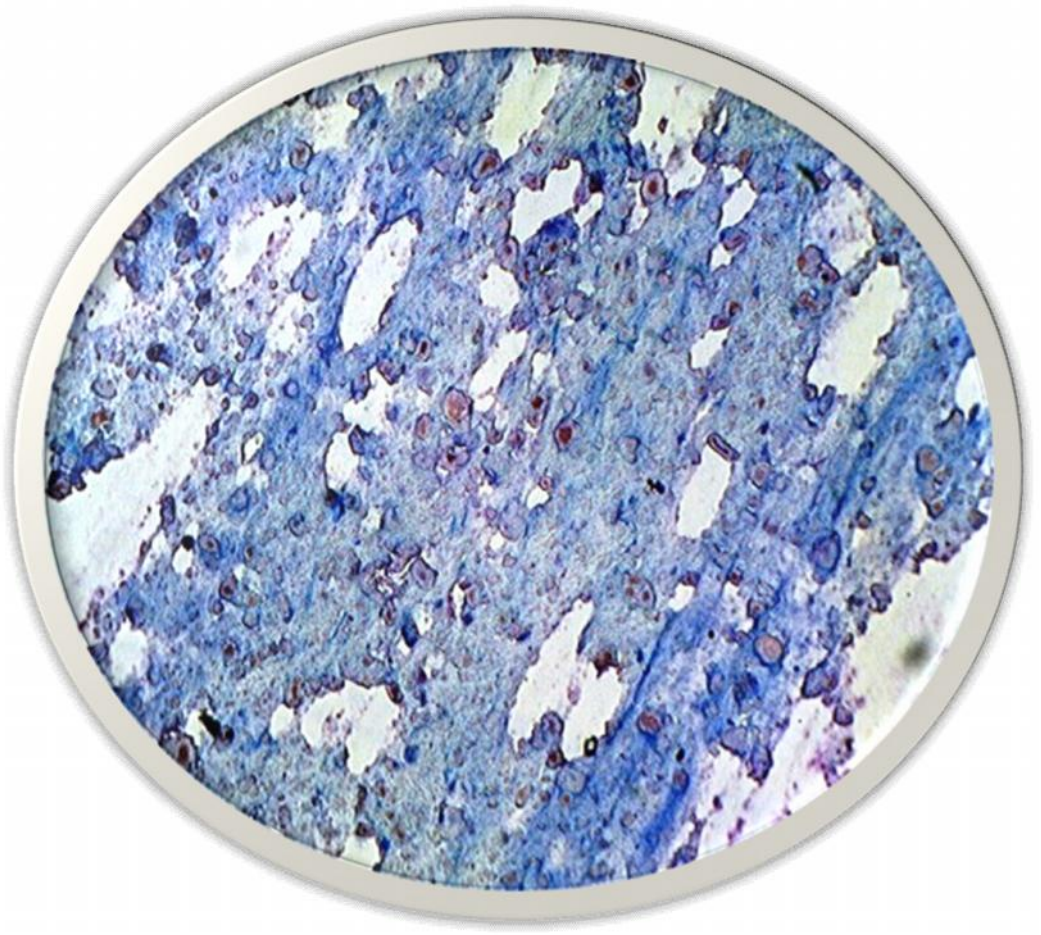
Signs and symptoms in short: Painless tumour on breast.

Tumour appearance: Soft to firm, mobile, not tender, painless.

Fine needle aspiration: Milky aspirate.

Cytology: Scanty cellular smears show scattered ductal epithelial cells with round regular nuclei and moderate amount of cytoplasm along with scattered myoepithelial cells, cysts macrophages along with few lymphocytes on secretory background material.

Impression: Galactocele.



6. Lactadenoma:

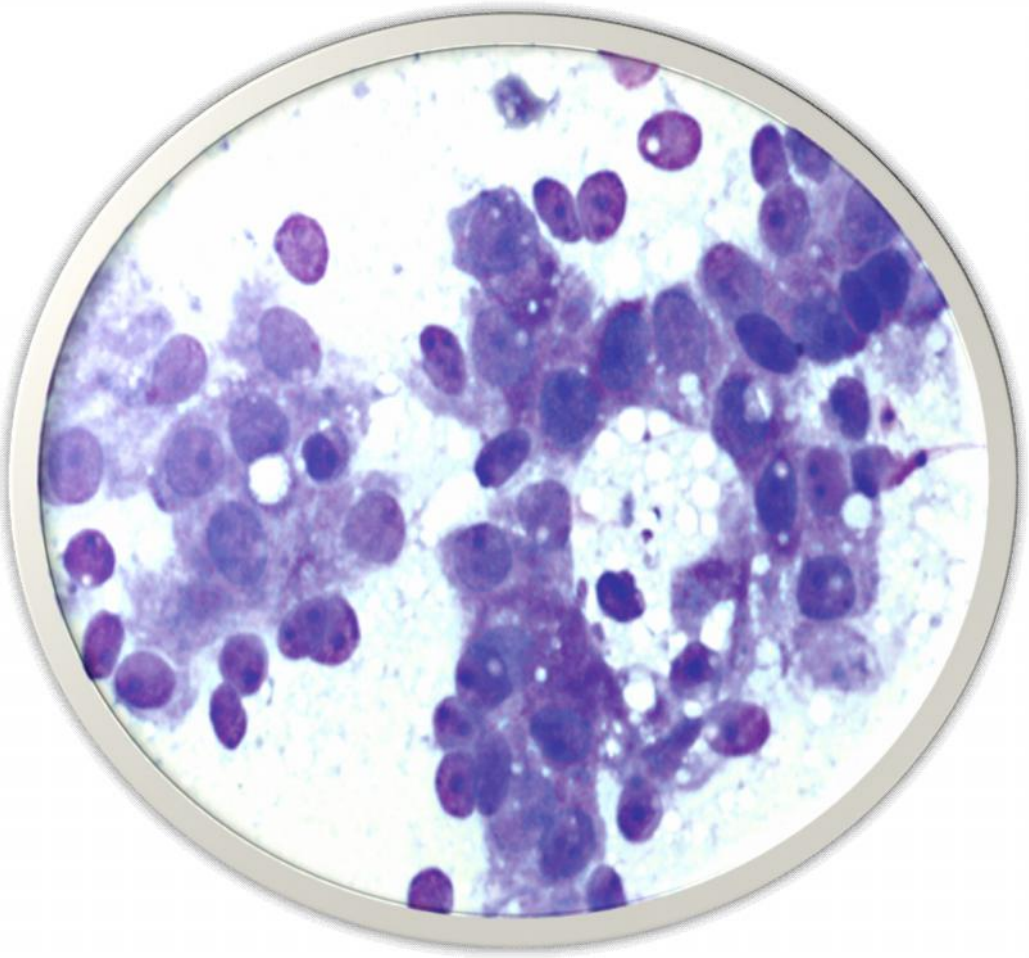
Signs and symptoms in short: Painless tumour.

Tumour appearance: Soft to firm, mobile, tender, painless.

Fine needle aspiration: Aspirate milky white.

Cytology: Moderately cellular smears show scattered ductal epithelial cells with round regular nuclei and moderate amount of cytoplasm arranged in sheets, groups and satteredly along with scattered, mypepithelial cells, cysts macrophages and polymorphs along with few lymphocytes on secretory background material.

Impression: Lactadenoma.



7. Lipoma:

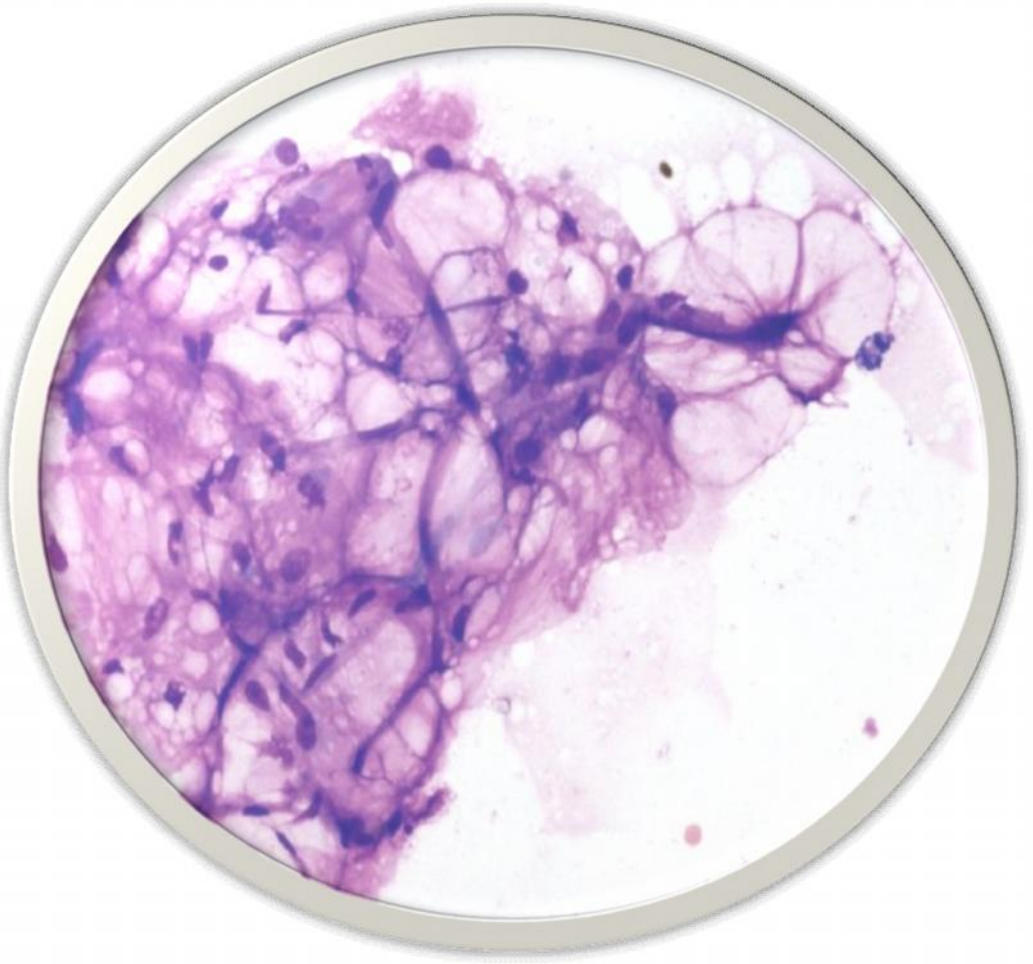
Signs and symptoms in short: Painless swelling over breast.

Tumour appearance: Soft, mobile, not tender, gradually increase in size, painless.

Fine needle aspiration: Greyish white aspirate.

Cytology: Hypocellular smears shows presence of benign mature adipocytes having large ,vacuolated cytoplasm and eccentrically placed nuclei arranged in groups,sheets and scatteredly. The background shows fat droplets and scanty eosinophilic material. No e/o abnormal cells.No e/o malignant cells.

Impression: Soft tissue lesion. s/o Lipoma.



8. Intraductal carcinoma:

Signs and symptoms in short: Weight loss, loss of apetite.

Tumour appearance: Firm to hard growth, Swollen growth, enlarged, tender breast, nipple retraction, no fluctuation in size in the breast, but in some cases axillary lymph node involvement is present.

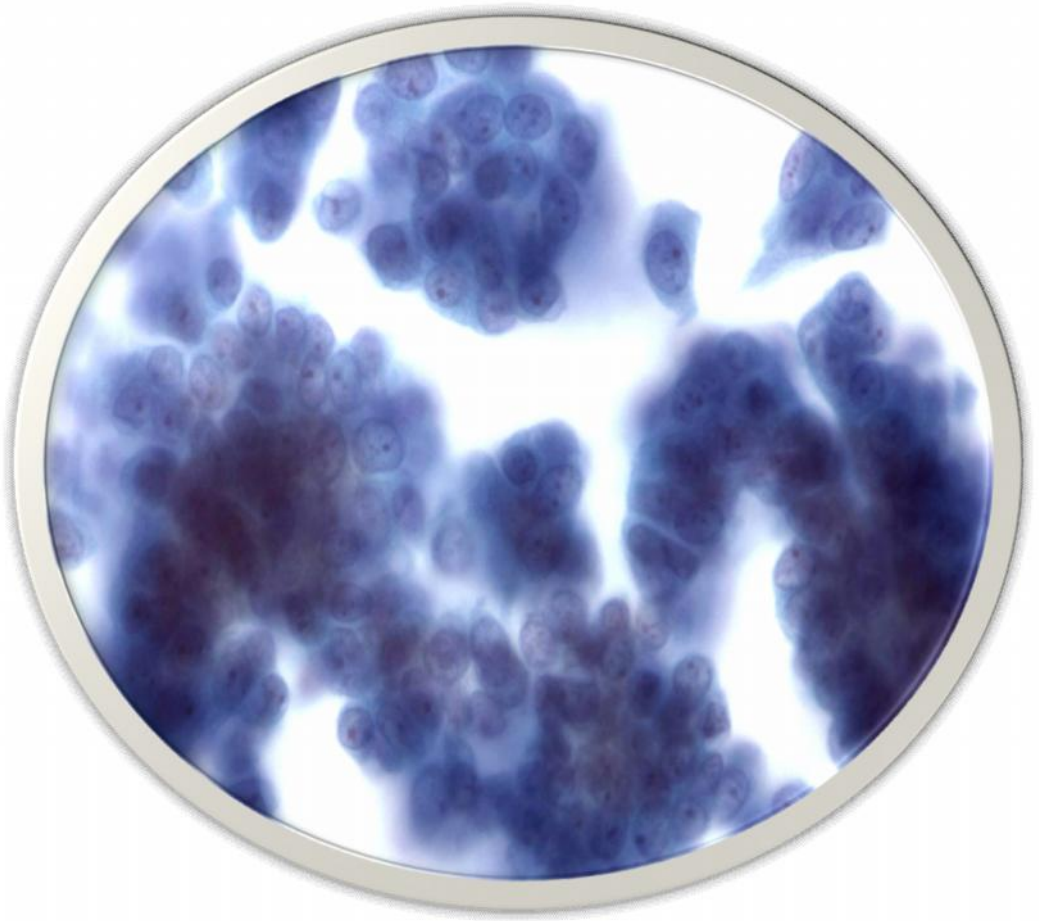
Fine needle aspiration cytology: In all the cases of IDC, aspirates were haemorrhagic, in the present study.

Cytology: Smears showed moderately cellular smears show small and large clusters of tumour cells. Tumour cells large round to oval with hyperchromatic,

pleomorphic nuclei with scanty amount of eosinophilic cytoplasm. The cells are arrange on haemorrhagic background material.

Impression: Positive for malignant cells. S/O : Infilterating carcinoma.

Adv.: Histopathological correlation.



9. Intraductal carcinoma with mets:

Signs and symptoms in short:

Tumour appearance: Firm, mobile, tender, fixed, swelling, nipple retraction, Lymph node involvement, nipple discharge, ulcerated growth seen on breast, bloody nipple discharge.

Fine needle aspiration: In all the cases aspirates is haemorrhagic in nature.

Cytology:

FNAC from breast: Moderately cellular smears show groups,sheets and singly scattered tumour cells.Tumour cells are round to oval with hyperchromatic pleomorphic nuclei with scanty amount of eosinophilic cytoplasm arranged on haemorrhagic background material.

Impression: Positive for malignant cells. S/O Infilterating duct cell carcinoma.

FNAC from lymph node: Moderately cellular smears show large clusters and scattered tumour cells. Tumour cells are round to oval with hyperchromatic, pleomorphic nuclei with scanty amount of eosinophilic cytoplasm arranged on haemorrhagic background material.

Impression; Positive for malignant cells. S/O Metastatic deposits from infilterating duct carcinoma.

10. Fibrosarcoma:

Signs and symptoms in short: Large swelling over breast, painless.

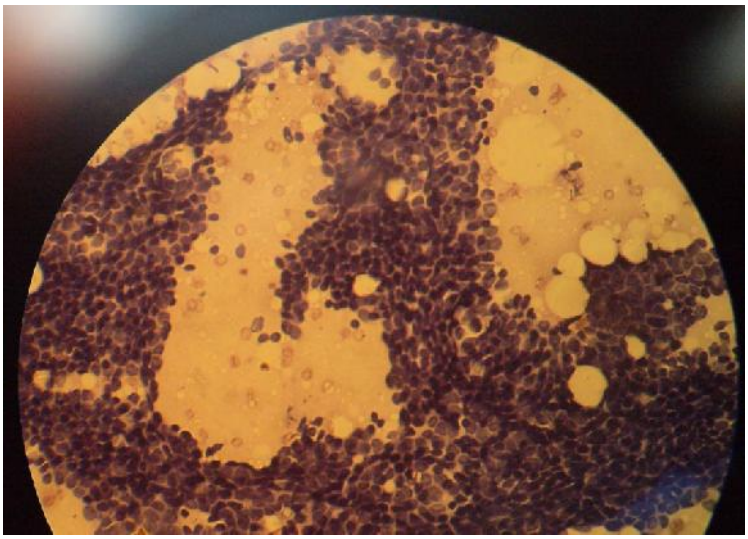
Tumour appearance: Firm, mobile, not tender, swelling, large mass 10*10 cm, involving whole breast, dilated veins present, previously operated case on same site, no axillary lymphadenopathy.

Fine needle aspiration: Grayish white.

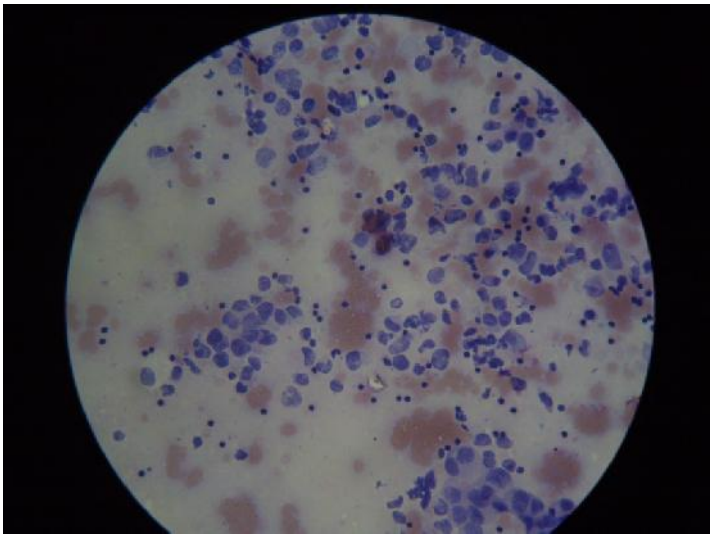
Cytology: Hypercellular smears shows loosely cohesive clusters, groups, sheets and scattered tumour cells. The cells are large, spindle shaped with hyperchromatic nuclei and scanty cytoplasm, also seen few small clusters of large round to oval cells with hyperchromatic nuclei. Also seen scattered large foamy fiberous histocytes on haemorrhagic background. Impression:Recurrence in soft tissue sarcoma, ?Malignant fiberous histocytoma, ?fibrosarcoma, Adv : Histopathological correlation.

Photomicrograph taken at GMC , Nanded while doing research work

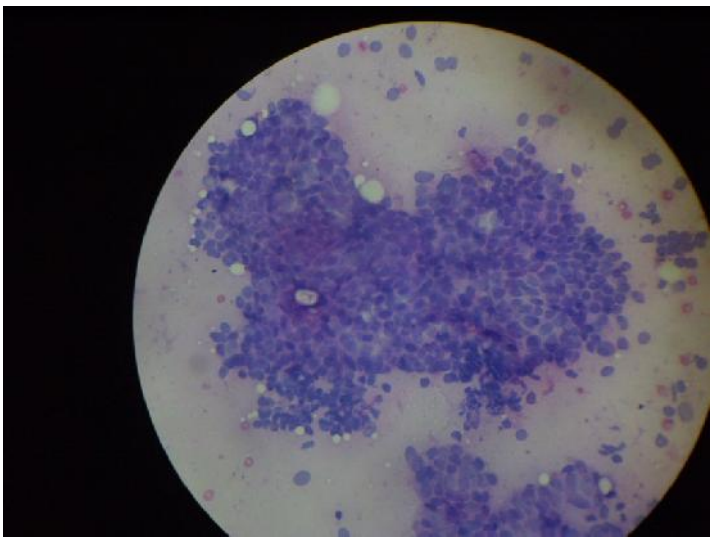
1. Fibroadenoma



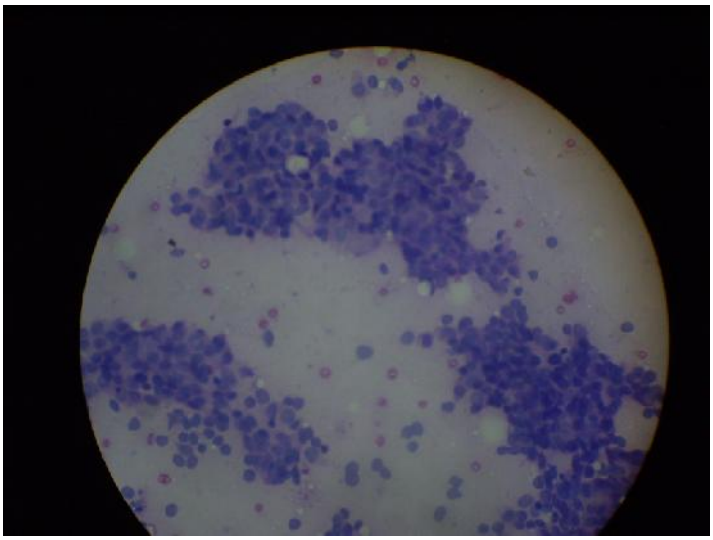
2) Intraductal carcinoma



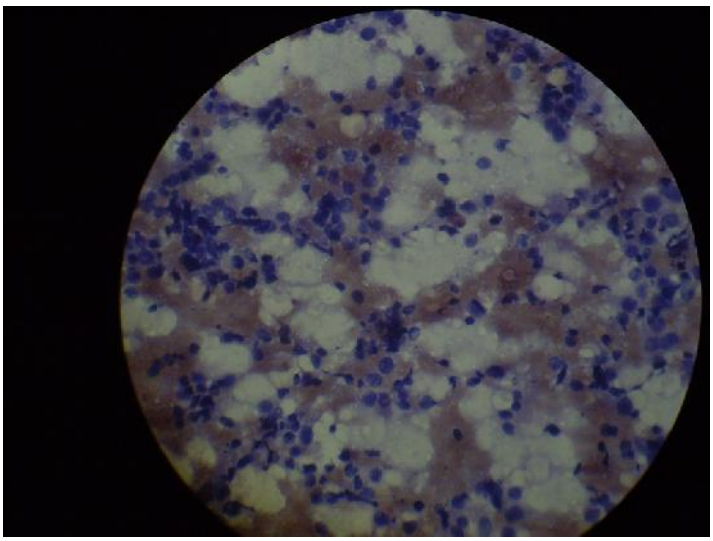
3) Firboadenoma



4) Dysplasia



5) IDC with mets



MATERIALS AND METHODS

NESSESARY CRITERIA FOR THE ASSESMENT OF

" AYURVEDIYA STANARBUDA"

1. Varna:

In varna examination,the colour of skin over arbuda is considered.1. In vataj arbuda the skin colour over arbuda becomes blackish. 2. In pittaj arbuda the skin colour over arbuda becomes yellowish or inflamed.3. In kaphaj arbuda and in mansaj arbuda there is no change in colur.4. In medoj arbuda the skin over the arbuda becomes glossy or there is no change in colour.

2. Sparsh:

In sparsh examination palpation of stanarbuda is done and recorded.1. In vataj stanarbuda, the feel of arbuda is like stretched bladder, but it is hard on palpation. 2. In pittaj stanarbuda,the skin over arbuda is hot and inflamed.3. In kaphaj stanarbuda, the feel is hard and cold.4. In medoj stanarbuda,it is soft and diffuse. 5. In mansaj stanarbuda,it is hard like stone and fixed to skin.6.In raktaj stanarbuda,it is having fleshy sprouts and hard but galloping.

3. Akruti:

In Akruti examination, the size of tumor is considered. Size of 0-1 cm is charted as 'very small'. Size of 1-4 cm is charted as 'small to big'. Size of 4-10 cm is charted as 'big'. Size of above 10 cm is charted as very big.

In Vataj Stanarbud size of arbud is from 'small to big' to big. In Pittaj Stanarbud rather than size of stanarbud, it's inflammation and supparation are cardinal signs. In Kaphaj Stanarbud size is small to big. In Medoj stanarbud size is big to very big , but there is cyclical variation in size. In Mansaj Stanarbud size is small to big , but edges of stanarbud are irregular like stone. In Raktaj Stanarbud size is small to big but with irregular edges.

4. Ruja:

In Vataj stanarbud, pain is intermittent, gives rise to various types of pain. In Pittaj Stanarbud, pain is like burning type or pain as in inflammation. In Kaphaj Stanarbud there is no pain or Alpa-Ruja. In Medoj Stanarbud, there is little pain. It may increase or decrease with size. In Mansaj Stanarbud there is no pain. In Raktaj Stanarbud there are episodes of pain or pulsating pain.

5. Strav:

In vataj stanarbuda it may secrete acha-rakta means fresh blood when it brusts. In pittaj stanarbuda , when it supputares it discharges hot and vitiated blood.In Kaphaj stanarbud it discharges pus like substance when it burst. In medoj stanarbuda when it bursts it discharges ghee like substance. In mansaj stanarbuda there is no discharge. In raktaj stanarbuda,when it bursts it discharges vitiated blood.

6. Vruddhi:

Rate of growth is clearly mentioned about kaphaj, medoj, and raktaj stanarbuda. In kaphaj stanarbuda, the growth is slow.In medoj stanarbuda, growth is also slow, but it increases and decreases. In raktaj stanarbuda, it is mentioned is shighra or acute. By considering other manifestations it can be said that the pittaj stanarbuda, growth can be acute.In mansaj stanarbuda growth is slow by taking account its other signs and symptoms. In vataj stanarbuda, its growth can be acute or chronic.

7. Shoph:

In vataj stanarbuda there is swelling. In kaphaj and medoj stanarbuda there is little swelling. In pittaj stanarbuda there is little swelling. In mansaj stanarbuda there is no swelling. In raktaj stanarbuda there is less swelling.

ASSESMENT CRITERIA:

Sign	**Vataj**	**Pittaj**	**Kaphj**	**Medoj**	**Mansaj**	Raktaj
1. Varna	Krushna-varn	Red or yellow	No change in varna	No change or oily	No change in colour	Ulcerative change
2. Sparsh	Bastivat	Ushan	Sheet and firm	Soft	Ashmopam	Elevated flesy sprouts
3. Akruti	Big	Not mentioned	Small to big	Big	Big but hard and irregular	Big, irregular, Sprouts
4. Ruja	Painful	Burning pain	Painless or mild pain	Mild pain	Painless	Not mentioned.
5. Strav	Fresh Blood	Vitiated blood	Whitish pus like	Fat or ghee like	No discharge	Vitiated blood
6. Vruddhi	Not mentioned	acute	Slow growth	Slow growth with cyclical change	Slow growth	acute

MATERIALS: 200 patitents.

METHODS:

1. 200 patients were selected from Government medical hospital, Nanded. The sample size of patients was calculated according to $n = Z^2 P (1-P)/d^2$ the sample size is determined by using above formula, with age standardized incidence of breast cancer per 1,00,000 population. The incidence rate is 7% ($\pm$1) for breast cancer, hence sample size is 200. Where Z = Z value 1.96 for 95% confidence level. P = percentage, d^2 = confidence interval (eg 0.04 = $\pm$4)
2. Informed consent was taken.
3. The patient who were adviced FNAC for their breast tumour were selected.
4. They were assessed as per ayurvedic criteria as mentioned above.
5. Ayurvedic diagnosis was made and then patient went for FNAC.
6. Ayurvedic diagnosis of stanarbuda and FNAC findings were recorded and charted.

MATERIALS FOR FNAC USED FOR THE STUDY:

1. 5-10 cc plastic disposable syringe.
2. Spirit swab
3. Slides
4. Fixative in coplin jar 95 % alcohol.
5. Spirit
6. Haematoxylin and eosin stain
7. Hign resolution microscope.

METHODOLOGY FOR FINE NEEDLE ASPIRATION CYTOLOGY

1. The procedure was first explained to the patient and comfortable position was given to the patient.
2. The skin over the lesion was cleaned with methylated spirt.
3. The lump was located and immobilized with left hand.
4. Then 2 or 5 cc plastic syringe with needle holded with right hand the needle is push into the lesion till it reaches approximately to the centre of the lesion.
5. The plunger of the syringe is partly withdrawn to create a negative pressure inside the syringe.
6. Without withdrawing the needle and maintaning the pressure syringe, should be moved in different directions. With through and forth movements and so the needle sucked the material.
7. Now the pull on the plunger was released the needle withdrawn from the skin. Though nothing was seen in the barrel of the syringe, material was collected inside the bore of the needle or sometimes visible at hub of the needle.
8. The needle was then removed from the barrel, the syringe filled with air needle replaced and by pressure on plunger the content were expelled on the slide.

9. The gross appearance of the material was noted and with another slide or coverslip the smear was made as if making the blood smear. Two or more smears were made and immediately fixed in 90% ethanol for at least 30 minutes. After fixation smears were stained with Haematoxylin and eosin stains.

The results:

The nuclei : blue/black

Cytoplasm : blue/green

Keratinising cells : Pink/orange.

TYPE OF STUDY: Obsevational

STUDY DESIGN: Diagnostic

PATIENTS SELECTION: Randamised.

INCLUSION CRITERIA:

1. Gender eligible for study is only female.
2. Age group 18-75 years.

EXCLUSION CRITERIA:

1. Non-cooperative
2. Patients in detoriating conditions.
3. Mastitis patients.
4. Breast abscess patients

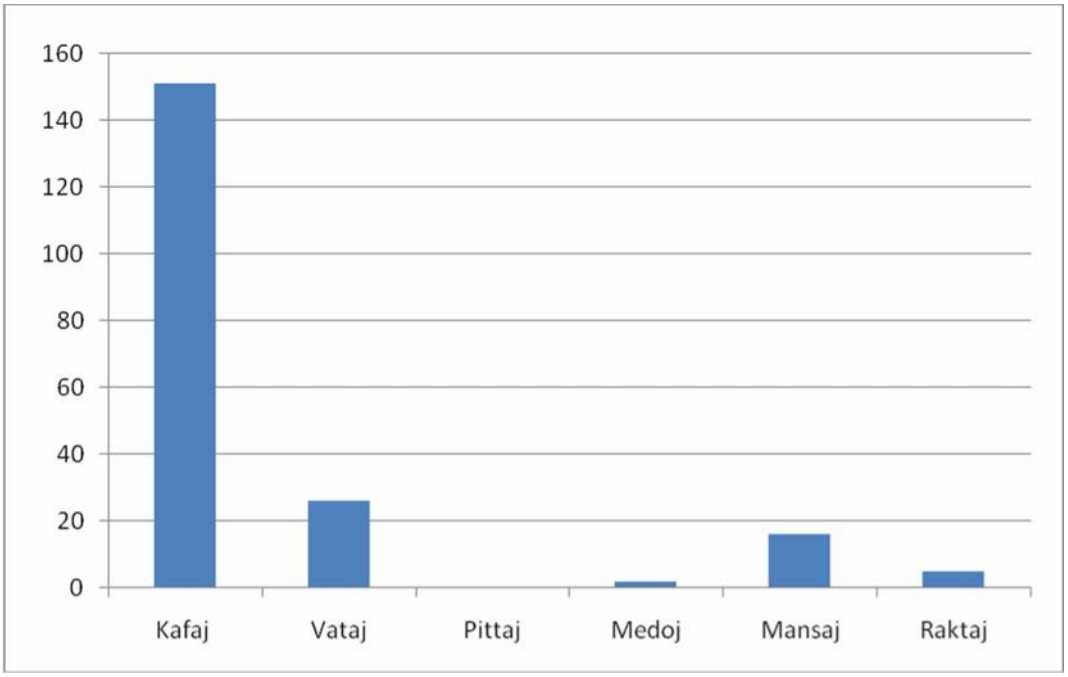
OBSERVATIONS, ANALYSIS AND RESULTS

The data obtained during this study was analyzed concerning specific comparisons of means and calculations were performed. Following observations and results were found from the study conducted.

Table No. 1. Type of Arbuda

Type of Arbuda	No. Of Patients (200)	Percentage (100)
Vataj Arbuda	26	13.00%
Pittaj Arbuda	00	0.0%
Kaphaj Arbuda	151	75.5%
Raktaj Arbuda	05	2.5%
Mansaj Arbuda	16	8.00%
Madoj Arbuda	02	1.00%

Graph No 1 Type of Arbud



The above table shows that most of the patients were of Kphaj Arbuda (75.5%) Vataj Arbuda (13.00%) Pittaj Arbuda (0.00%). While the patients of Raktaj Arbuda (2.50%) Mansaj Arbuda (8%) and Medoj Arbuda (1.00%)

Table No.2 Agewise distribution of the Patients of "Stanarbuda"

Age of the patients	No.of patients (200)	Percentage of patients (100)
18-30 yrs	127	63.50 %
31-60 yrs	67	33.50 %
61-75 yrs	06	03 %

The above table shows that the number of patients were significantly high in the age group 18-30 years. The percentage is 63.50 % in that age group. The patients found in 31-60 years are 67 and the percentage is 33.50 %.The patients found in the age group 61-75 were 6, and the percentage is 3

Graph No 2 Age wise distribution

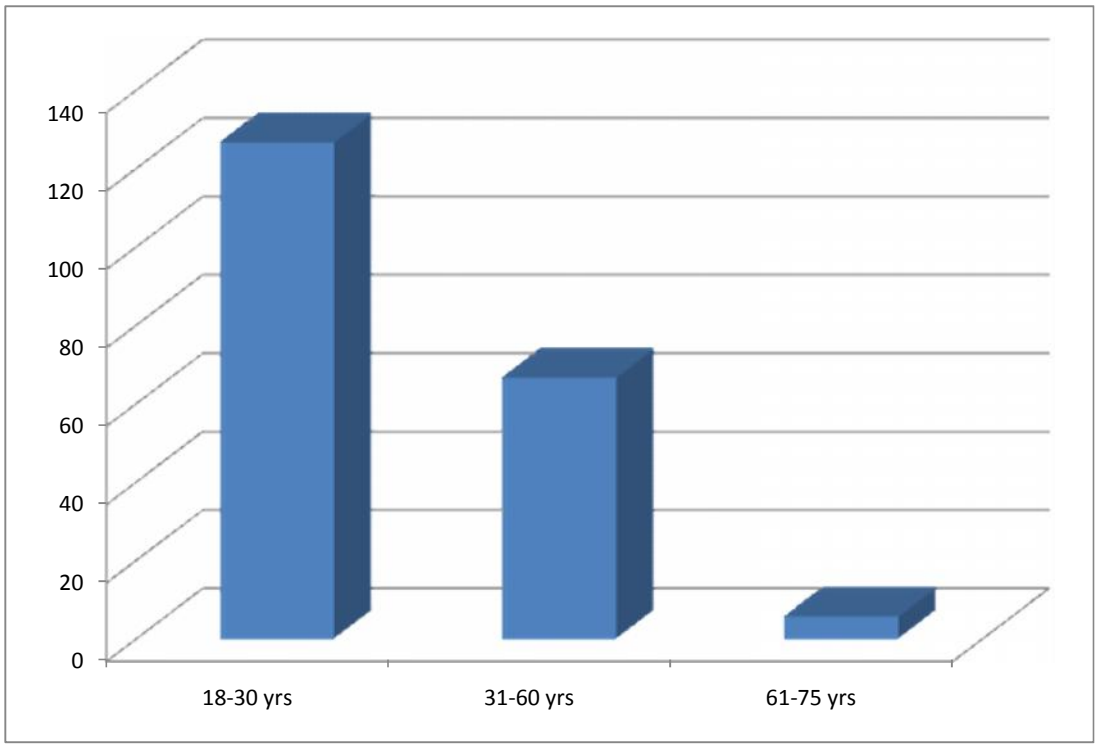


Table No.3 Diagnosis by Fine needle aspiration cytology (F.N.A.C.)

Type of Tumour	No. of Patients	Percentage
Fibroadenoma	142	71.0 %
Benign epithellial Lesion	05	2.50 %
Dysplasia with Benign epithellial lesion	06	3.00 %
Galactocele	05	2.50 %
Lactadenoma	05	2.50 %
Infiltrating duct cell carcinoma	19	9.50 %
Fibrosarcoma	01	0.50 %
Duct actasia	01	0.50 %
Lipoma	01	0.50 %
Benign Hyperplastic epithelial lesion	15	7.50%

The above table shows that most of the patients were of Fibroadenoma (71.0%) Galactocoele (2.50%) Dysplasia with Ben.Epithellial lesion (3.00%) Infilterating duct cell carcinoma (9.50%) Duct Actasia (0.50 %) Lactadenoma (0.50%) Lactadenoma (2.50%) Benign epithelial lesion (3.00%) Lipoma (0.50%) Benign hyperplastic epithelial lesion (7.50%) Fibrosarcoma (0.50%)

Graph No 3 FNAC diagnosis

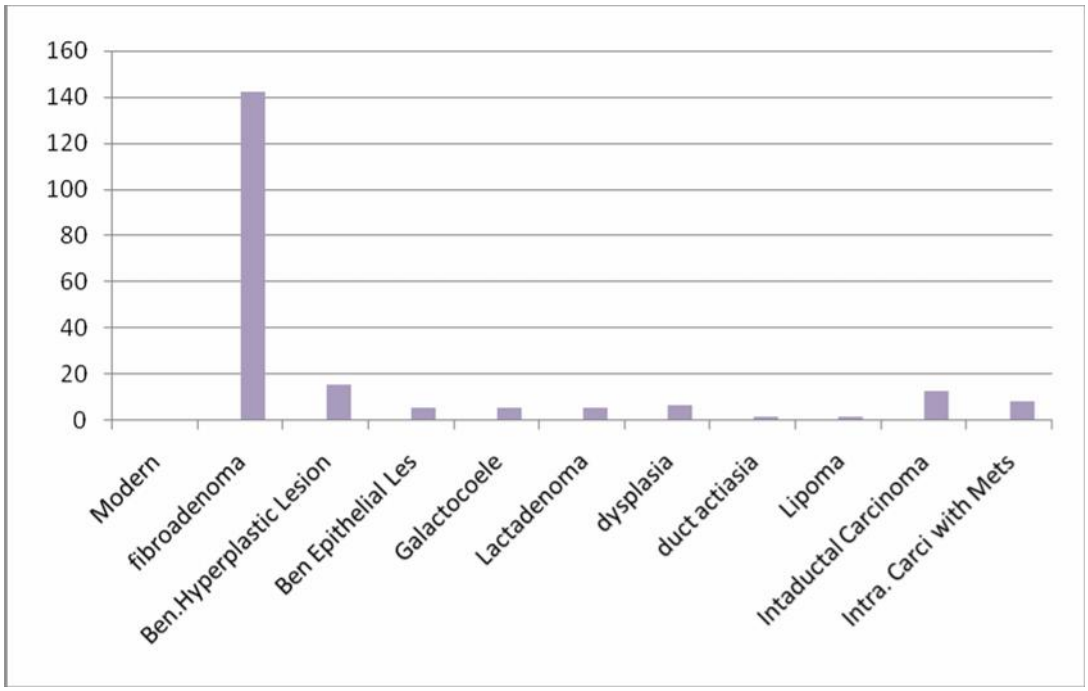


Table No.4 Distribution of Benign and Malignant Tumour

Type of Tumor	No of Patients (200)	Percentage of patients (100)
Benign Tumors	180	90 %
Malignant Tumors	20	10 %

The above table shows that the percentage of Benign Tumors were high 90% and the percentage of Malignant tumors is 10 % found during Study.

Graph No 4 Benign and malignant tumor

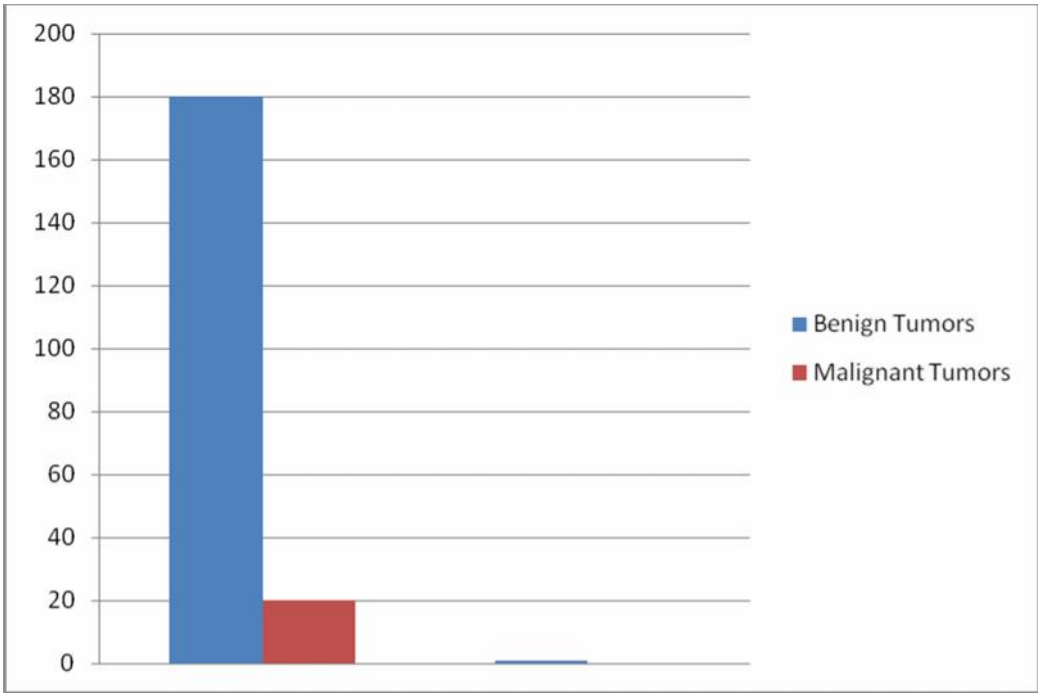


Table No.5 Distribution of patients according to size of the Tumor

Size of the tumor	No. of patients
Up to 2 cm.	99
2-5 cm	111
More than 5 cm	11

The above table shows that the no. of patients were in highest in number where the size of tumour is 2-5cm. The number of patients were 111.While the patients were 99 where the size of tumour is upto 2 cm. and the patients were 11 where the size of tumour is more than 5 cm. Few patients had both breast involved and few had more than one lump.

Graph No 5 Size of Tumor

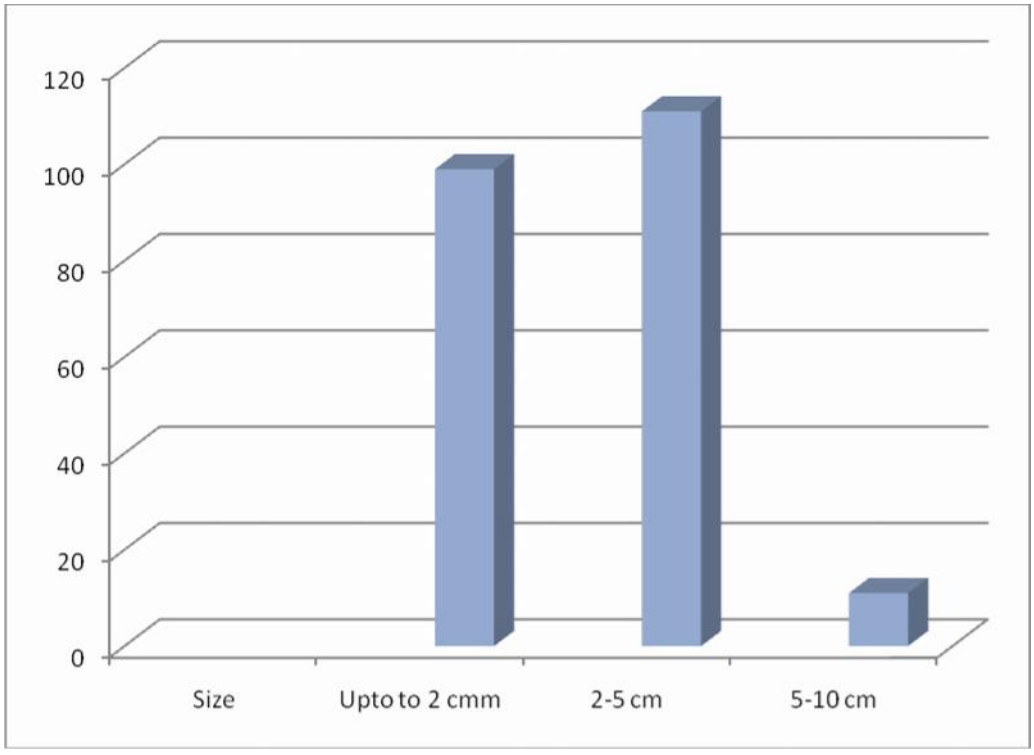


Table No.6 Age wise distribution of the patients with Breast Tumor.

Age of the patients	No. of patients (200)	Percentage of patients (100)
18-30 yrs	127	63.50 %
31-60 yrs	67	33.50 %
61 -75 yrs	06	03 %

The above table shows that the No.of patients were in highest no.in the agegroup of 18-30 yrs that is 63.50%, whereas the 33.50 % patients were in the age group of 31-60 yrs and 3% patients were found in the age group of 61-75 yrs.

Graph No 6 Agewise distribution

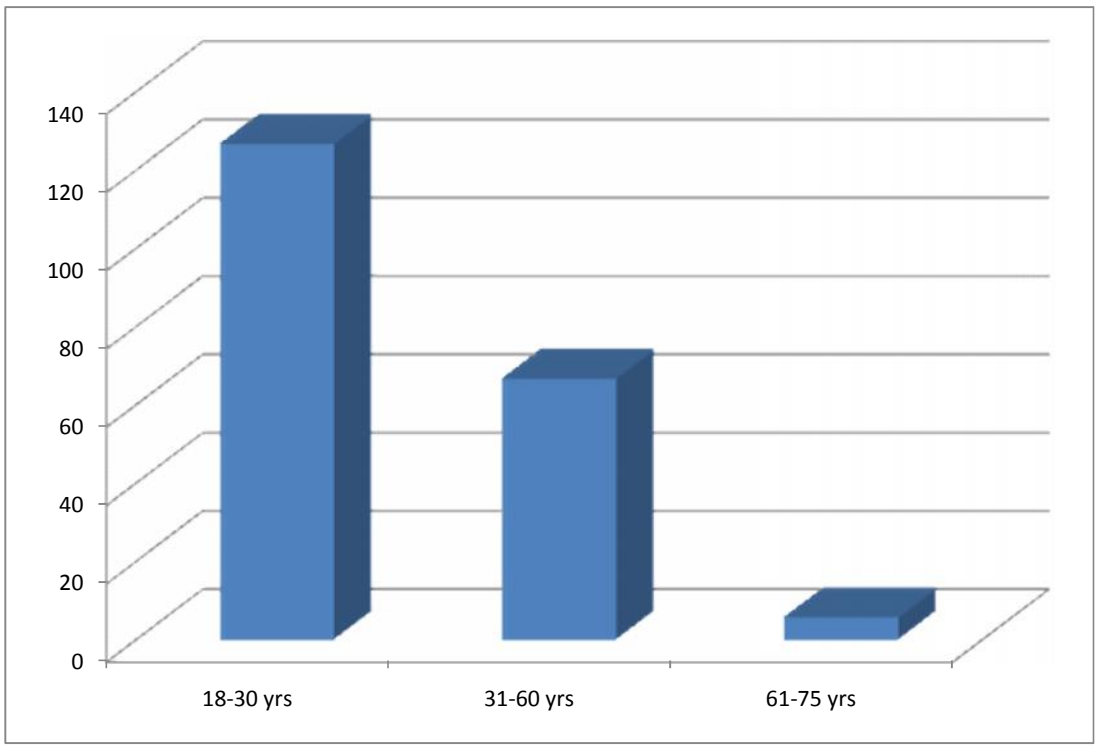


Table No.7 Distribution of patients with the affected breast

Affected Breast	No. of Patients (200)	Percentage of patients (100)
Right	94	47 %
Left	80	40 %
Bilateral	26	13 %

In above table it seems that the percentage of the affected right Breast is 47% whereas the number of the affected left Breast is 40% and the number of affected Bilateral Breast is 13%.

Graph No 7

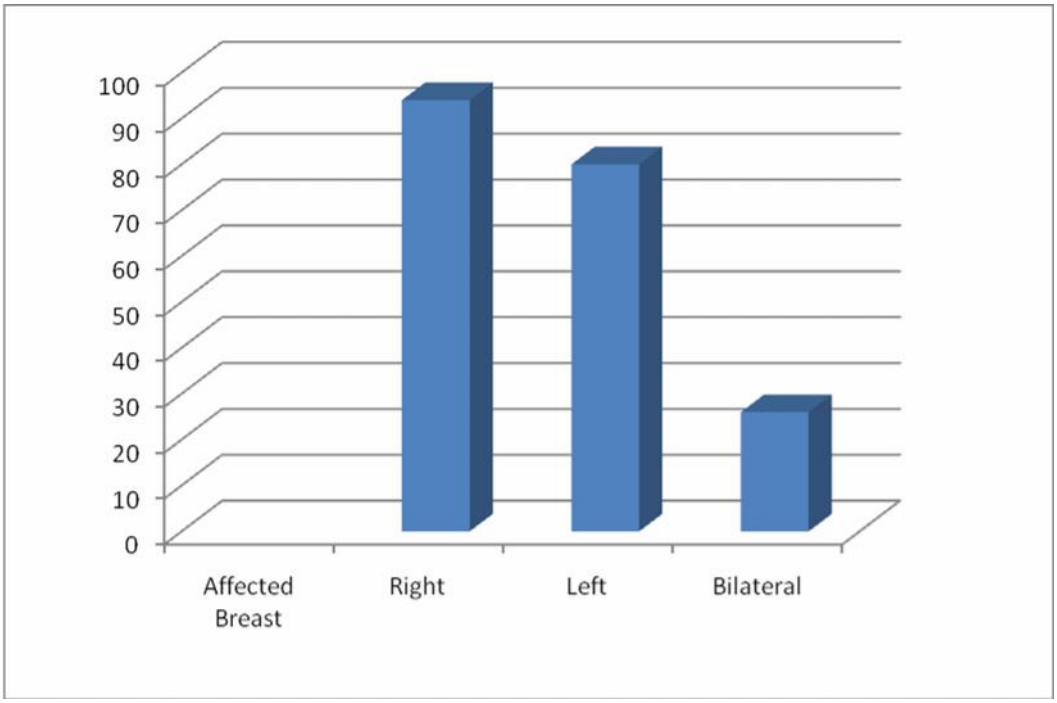


Table No.8 Distribution of the affected Quadrant of the Breast

Affected Quadrant of Breast	No. of patients	Percentage of patients(100)
Upper Outer Quadrant	123	59.40 %
Upper inner Quadrant	42	20.20 %
Upper Half	04	2.00 %
Lower Outer Quadrant	25	12.30 %
Lower inner Quadrant	10	4.80 %
Lower Half	02	0.90 %
Whole Breast	01	0.40 %

The above table shows that the percentage is high 59.40 % in the affected Upper outer quadrant whereas 20.20 in the upper inner quadrant and 2.00% in the Upper half of the Breast and 12.30 % in the Lower outer quadrant and 4.80% in the Lower inner Quadrant and 0.90% in the Lower half of the Breast. The percentage is 0.40% in Whole breast affected.

Graph No 8 Affected quadrants of breast

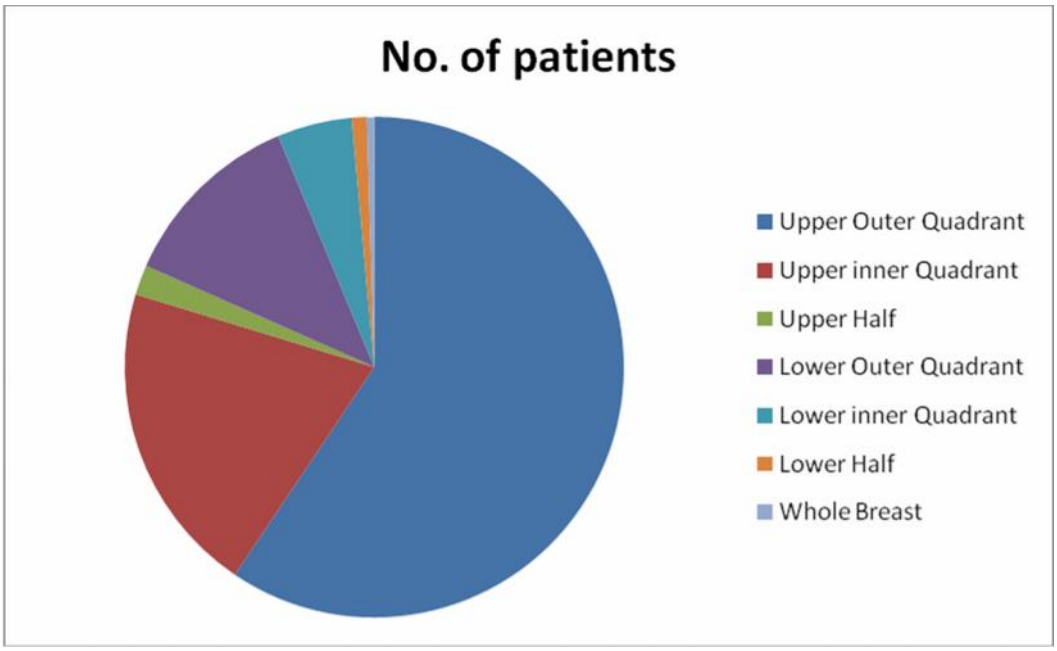


Table No.9.Agewise percentage in Benign and Malignant tumor.

Type of Tumour	18-30 Yrs	31-60 Yrs	61- 75 Yrs.
Fibroadenoma - Benign	50.0 %	21.0 %	0 %
Benign epithelial lesion - Benign	1.00 %	1.50 %	0%
Benign hyperplastic epithelial lesion - Benign	5.00 %	2.50 %	0%
Lipoma - Benign	0.00%	0.50 %	0%
Galactocoel - Benign	2.50 %	0.50%	0%
Dysplasia with Benign lesion - Benign	0.50 %	2.00%	0.50%
Lactadenoma - Benign	2.00 %	0.50%	0%
Ductactasia - Benign	0%	0.50 %	0%
I.D.C. and I.D.C.with mets- Malignant	0%	6.50%	3.50%

The above table shows that most of the patients of Fibroadenoma (50.0%) in the agegroup of 18-30. Whereas the patients of Benign hyperplastic epithelial lesion were found 5.00% in age droup of 18-30.Galactocoele is found in 2.50% of patients and Lactadenoma were found in 2.00% in the age group of 18-30 age group.

In the age group of 31 to 60, Benign hyperplastic epithelial lesion was 2.50% , whereas Intraductal Carcinoma was 6.50%

In age group of 61-75 yrs, Intraductal Carcinoma was 3.50%

Graph 9. Age wise percentage

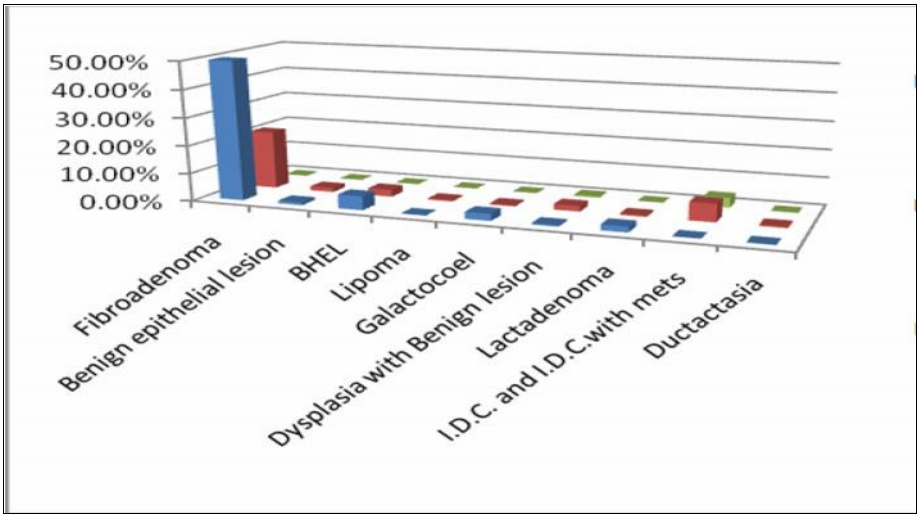
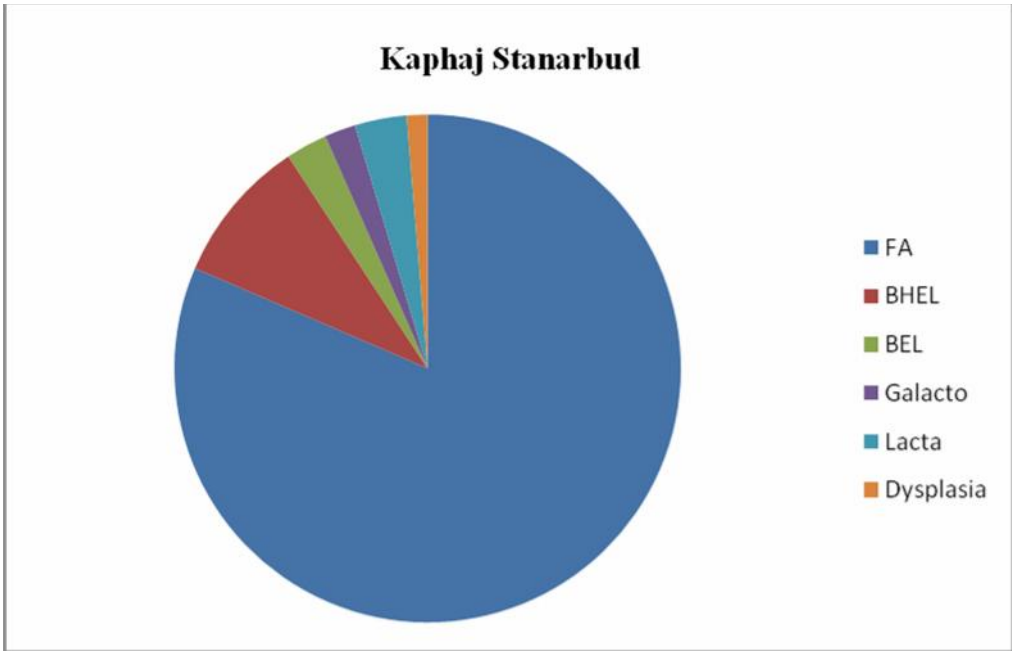


Table no. 10. Ayurvedic Nidan of stanarbud and their correlation with FNAC findings.

Kaphaj Stanarbud	Patients	Percentage
Fbroadenoma	123	81.45%
Benign Hyperplastic Epithelial Lesion	14	9.27%
Benign Epithelial Lesion	4	2.64%
Galactocoele	3	1.98%
Lactadenoma	5	3.31%
Dysplasia	2	1.32%

Graph no. 10 : Ayurvedic Nidan of stanarbud and their correlation with FNAC findings

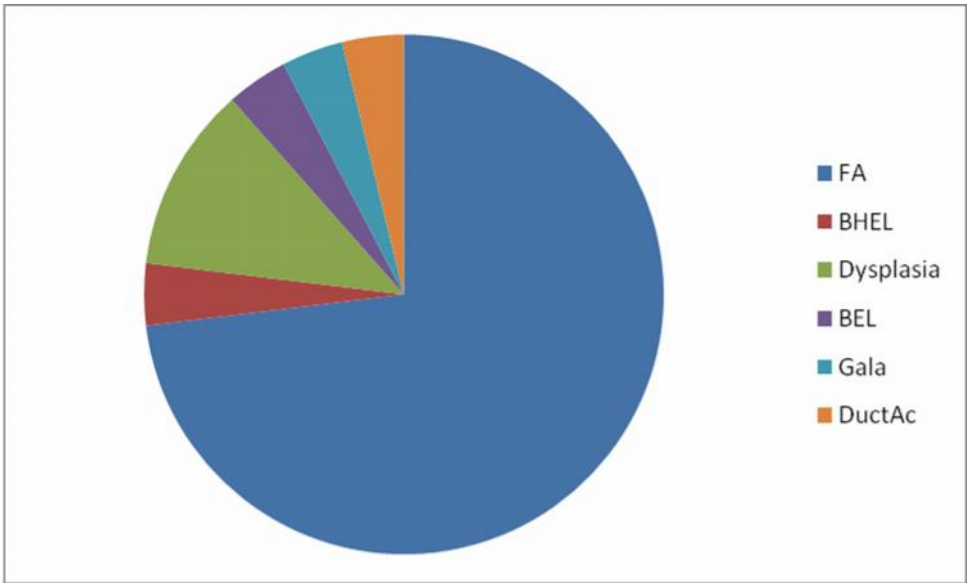


The above table shows that, the no of patients diagnosesd as a fibroadenoma were 123 the highest percentage found is 81.45%.

Table no.11. Vataj stanarbuda

Vataj Stanarbud	Patients	Percentage
Fbroadenoma	19	73.10%
Benign Hyperplastic Epithelial Lesion	1	3.84%
Dysplasia	3	11.50%
Benign Epithelial Lesion	1	3.84%
Galactocoele	1	3.84%
Ductectasia	1	3.84%

Graph no. 11: Vataj Stanarbud

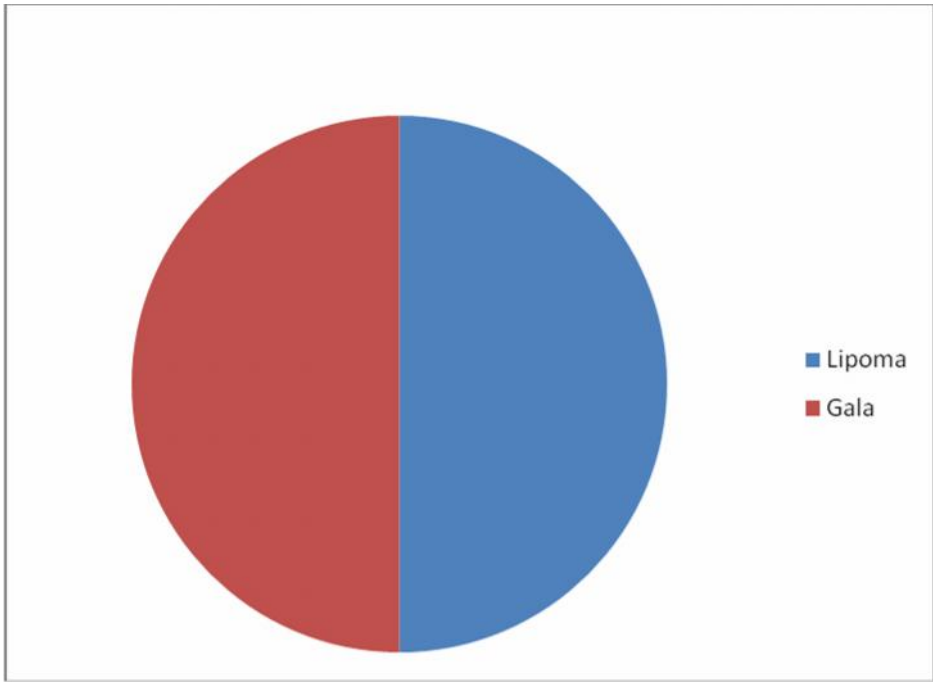


The above table shows that, the no of patients diagnosesd as a fibroadenoma were 19 (73.10%) while the remining lesions of brest shows lesser no and percentage.

Table No. 12: Medoj stanarbuda:

Madoj Stanarbud	Patients	Percentage
Lipoma	1	50%
Galactocole	1	50%

Graph no.12: Medoj Stanarbuda:

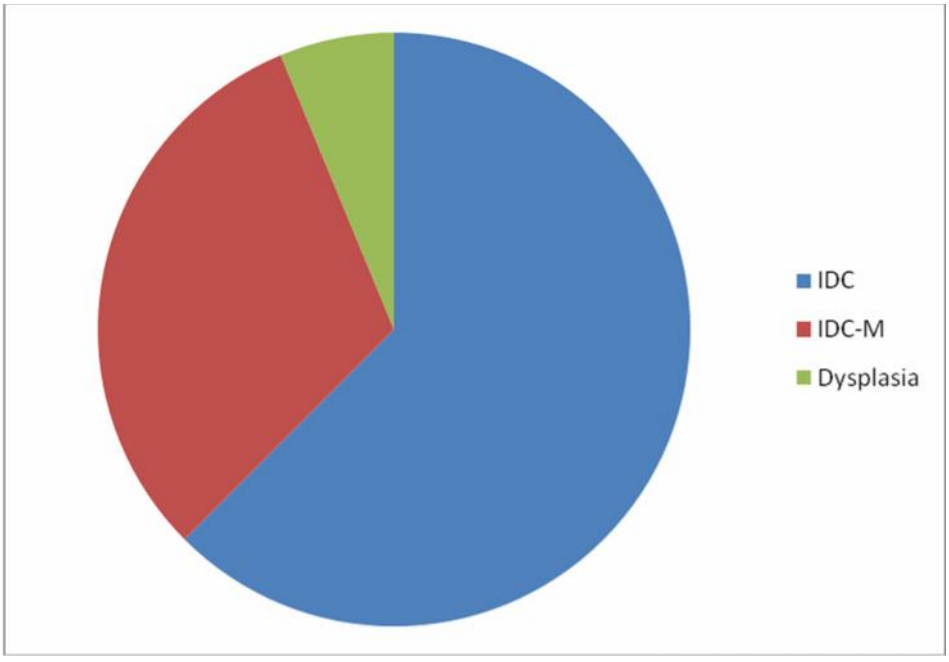


The above table shows that, the patients of medoj stanarduda were divided in to lipoma and galactocoele and the percentage is 50.00%

Table no.13: Mansaj stanarbuda:

Mansaj Stanarbud	Patients	Percentage
Intraductal Carcinoma	10	62.50%
Intraductal Carcinoma with Metastasis	5	31.25%
Dysplasia	1	6.25%

Graph no.13 : Mansaj Stanarbuda :

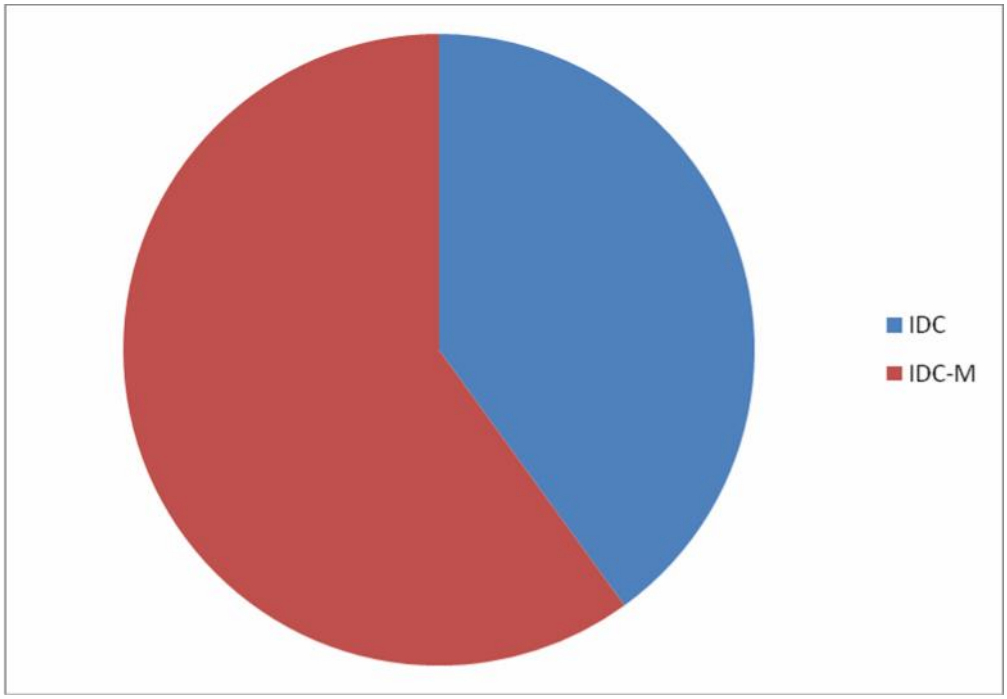


The above table shows that, intraductal carcinoma were highest in percentage (62.50%) while the percentage of intradutal carcinoma with metastasis, it is 31.25% and the patient diagnosed as a dysplasia is 6.25%.

Table no.14 : Raktaj stanarbuda :

Raktaj Stanarbud	Patients	Percentage
Intraductal Carcinoma	2	40%
Intraductal Carcinoma with Metastasis	3	60%

Graph no.14 : Raktaj Stanarbuda :



The above table shows that the percentage of inraductal carcinoma is 40.00% in Raktaj Stanarbuda while, intraductal carcinoma with metastasis is 60% in the persent study.

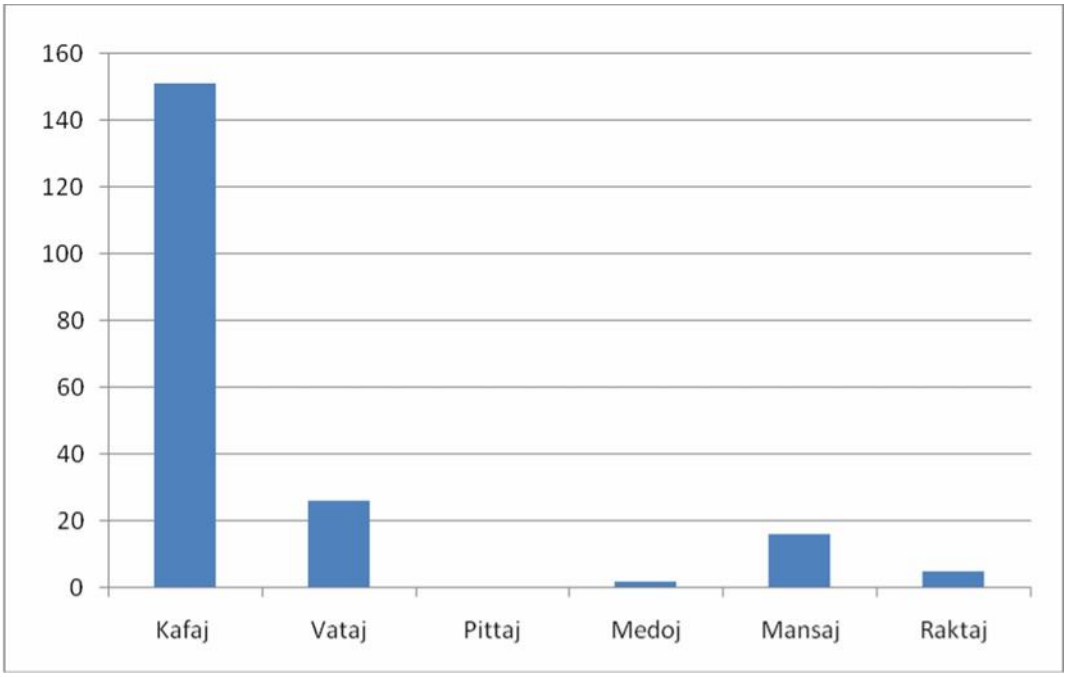
OBSERVATIONS, ANALYSIS AND RESULTS

The data obtained during this study was analyzed concerning specific comparisons of means and calculations were performed. Following observations and results were found from the study conducted.

Table No. 1. Type of Arbuda

Type of Arbuda	No. Of Patients (200)	Percentage (100)
Vataj Arbuda	26	13.00%
Pittaj Arbuda	00	0.0%
Kaphaj Arbuda	151	75.5%
Raktaj Arbuda	05	2.5%
Mansaj Arbuda	16	8.00%
Madoj Arbuda	02	1.00%

Graph No 1 Type of Arbud



The above table shows that most of the patients were of Kphaj Arbuda (75.5%) Vataj Arbuda (13.00%) Pittaj Arbuda (0.00%). While the patients of Raktaj Arbuda (2.50%) Mansaj Arbuda (8%) and Medoj Arbuda (1.00%)

Table No.2 Agewise distribution of the Patients of "Stanarbuda"

Age of the patients	No.of patients (200)	Percentage of patients (100)
18-30 yrs	127	63.50 %
31-60 yrs	67	33.50 %
61-75 yrs	06	03 %

The above table shows that the number of patients were significantly high in the age group 18-30 years. The percentage is 63.50 % in that age group. The patients found in 31-60 years are 67 and the percentage is 33.50 %.The patients found in the age group 61-75 were 6, and the percentage is 3

Graph No 2 Age wise distribution

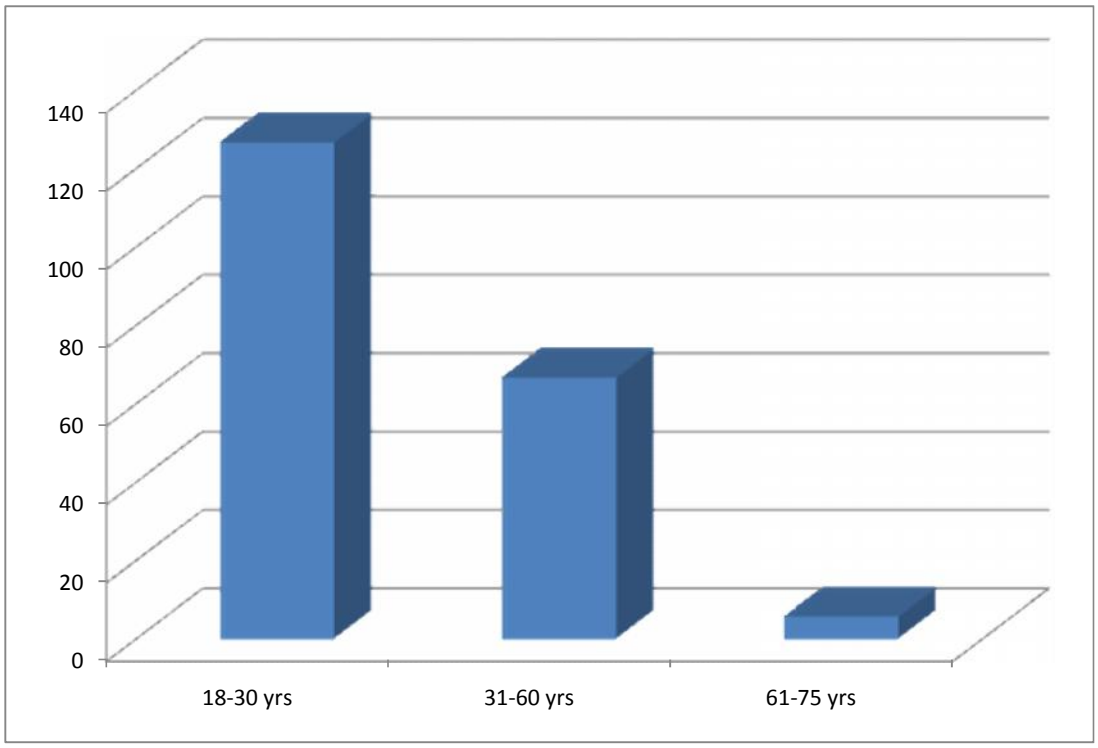


Table No.3 Diagnosis by Fine needle aspiration cytology (F.N.A.C.)

Type of Tumour	No. of Patients	Percentage
Fibroadenoma	142	71.0 %
Benign epithellial Lesion	05	2.50 %
Dysplasia with Benign epithellial lesion	06	3.00 %
Galactocele	05	2.50 %
Lactadenoma	05	2.50 %
Infiltrating duct cell carcinoma	19	9.50 %
Fibrosarcoma	01	0.50 %
Duct actasia	01	0.50 %
Lipoma	01	0.50 %
Benign Hyperplastic epithelial lesion	15	7.50%

The above table shows that most of the patients were of Fibroadenoma (71.0%) Galactocoele (2.50%) Dysplasia with Ben.Epithellial lesion (3.00%) Infilterating duct cell carcinoma (9.50%) Duct Actasia (0.50 %) Lactadenoma (0.50%) Lactadenoma (2.50%) Benign epithelial lesion (3.00%) Lipoma (0.50%) Benign hyperplastic epithelial lesion (7.50%) Fibrosarcoma (0.50%)

Graph No 3 FNAC diagnosis

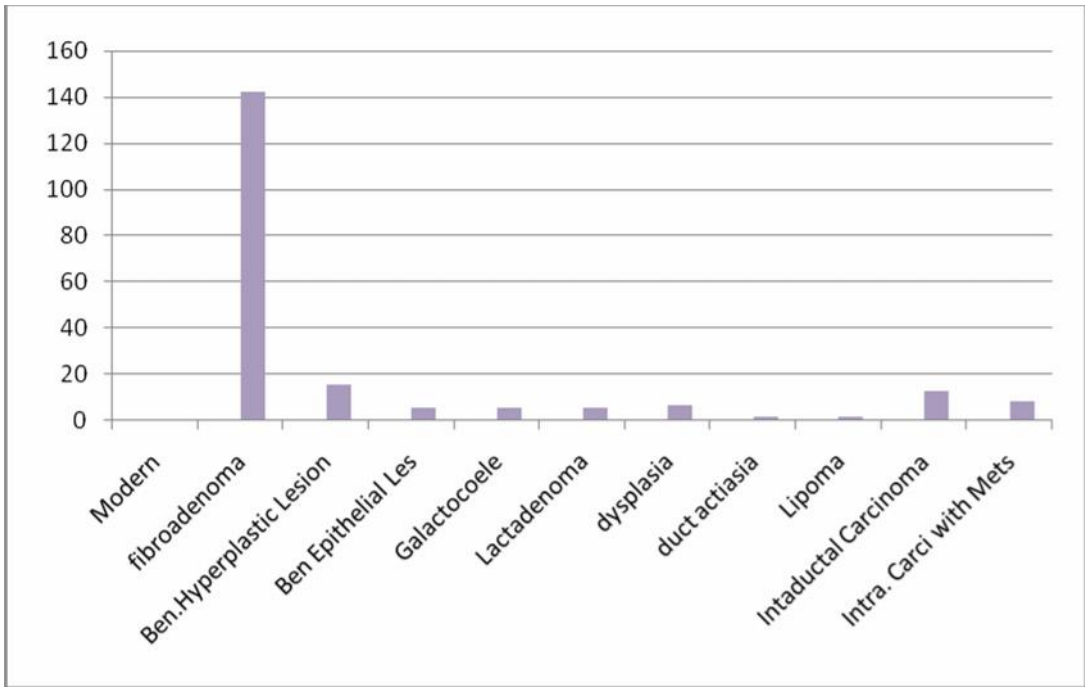


Table No.4 Distribution of Benign and Malignant Tumour

Type of Tumor	No of Patients (200)	Percentage of patients (100)
Benign Tumors	180	90 %
Malignant Tumors	20	10 %

The above table shows that the percentage of Benign Tumors were high 90% and the percentage of Malignant tumors is 10 % found during Study.

Graph No 4 Benign and malignant tumor

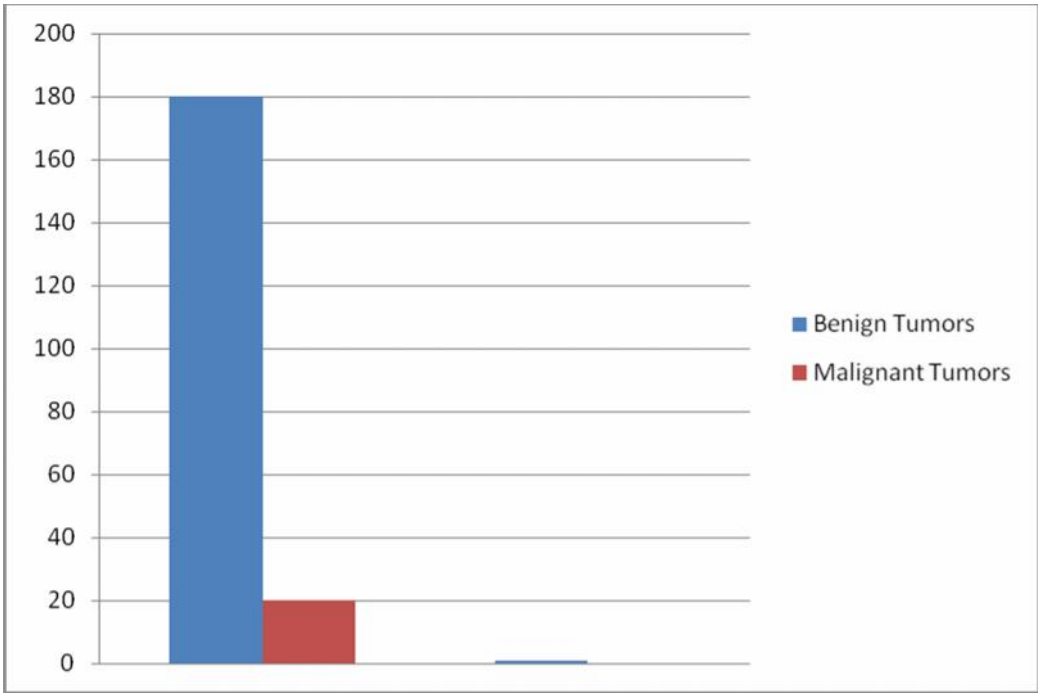


Table No.5 Distribution of patients according to size of the Tumor

Size of the tumor	No. of patients
Up to 2 cm.	99
2-5 cm	111
More than 5 cm	11

The above table shows that the no. of patients were in highest in number where the size of tumour is 2-5cm. The number of patients were 111.While the patients were 99 where the size of tumour is upto 2 cm. and the patients were 11 where the size of tumour is more than 5 cm. Few patients had both breast involved and few had more than one lump.

Graph No 5 Size of Tumor

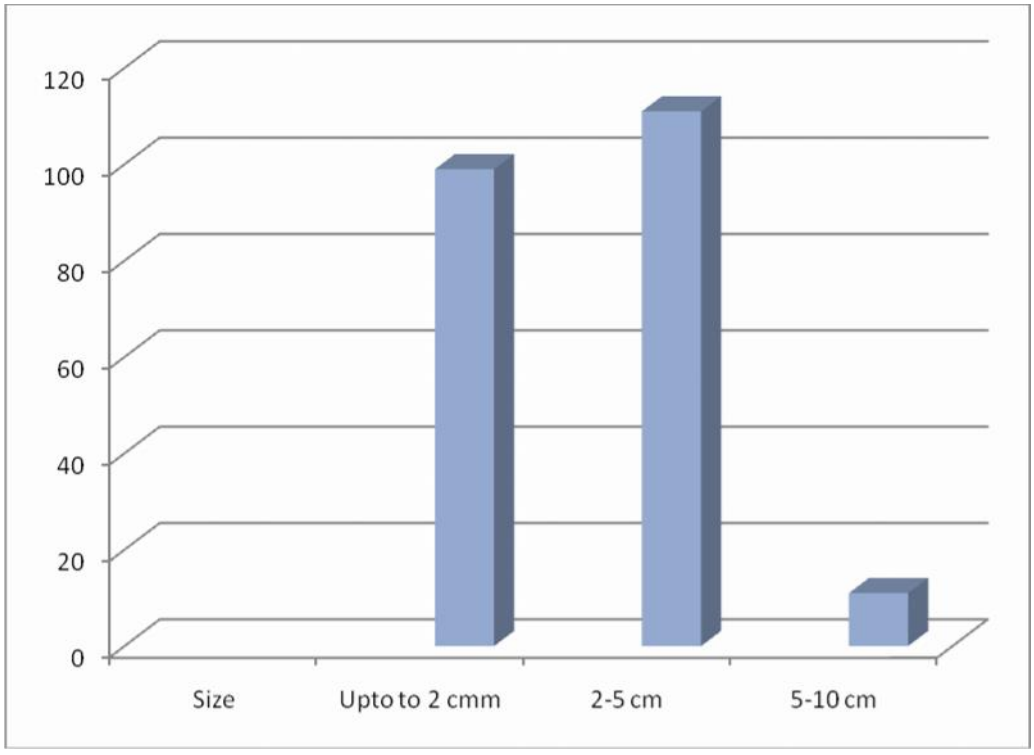


Table No.6 Age wise distribution of the patients with Breast Tumor.

Age of the patients	No. of patients (200)	Percentage of patients (100)
18-30 yrs	127	63.50 %
31-60 yrs	67	33.50 %
61 -75 yrs	06	03 %

The above table shows that the No.of patients were in highest no.in the agegroup of 18-30 yrs that is 63.50%, whereas the 33.50 % patients were in the age group of 31-60 yrs and 3% patients were found in the age group of 61-75 yrs.

Graph No 6 Agewise distribution

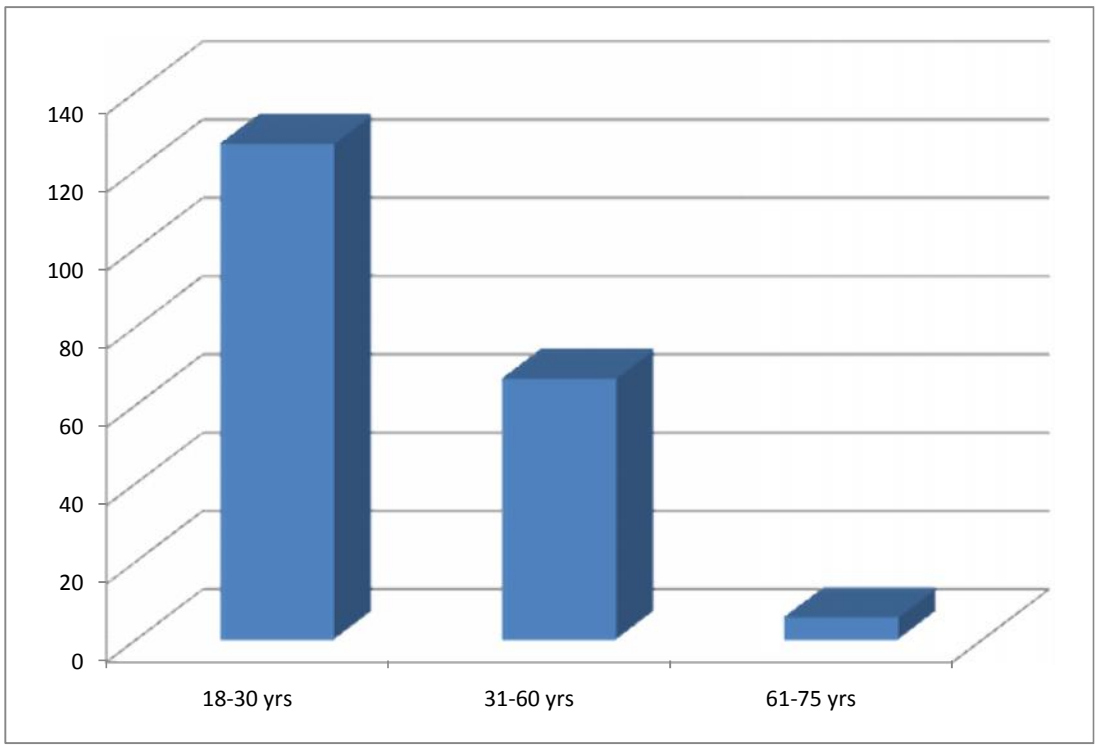


Table No.7 Distribution of patients with the affected breast

Affected Breast	No. of Patients (200)	Percentage of patients (100)
Right	94	47 %
Left	80	40 %
Bilateral	26	13 %

In above table it seems that the percentage of the affected right Breast is 47% whereas the number of the affected left Breast is 40% and the number of affected Bilateral Breast is 13%.

Graph No 7

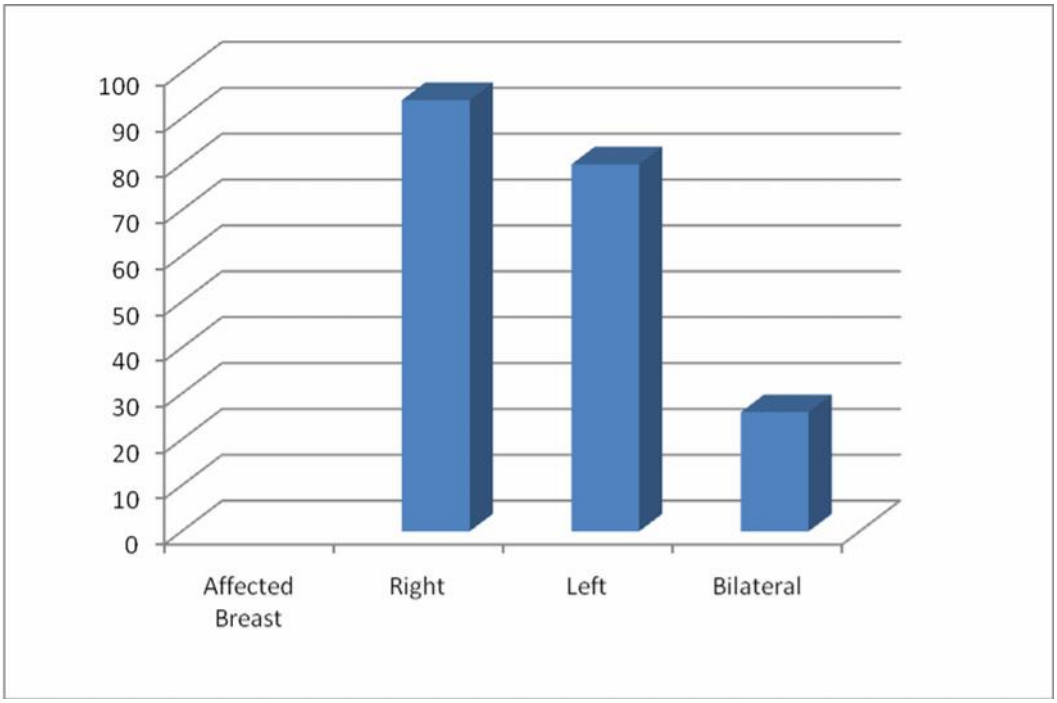


Table No.8 Distribution of the affected Quadrant of the Breast

Affected Quadrant of Breast	No. of patients	Percentage of patients(100)
Upper Outer Quadrant	123	59.40 %
Upper inner Quadrant	42	20.20 %
Upper Half	04	2.00 %
Lower Outer Quadrant	25	12.30 %
Lower inner Quadrant	10	4.80 %
Lower Half	02	0.90 %
Whole Breast	01	0.40 %

The above table shows that the percentage is high 59.40 % in the affected Upper outer quadrant whereas 20.20 in the upper inner quadrant and 2.00% in the Upper half of the Breast and 12.30 % in the Lower outer quadrant and 4.80% in the Lower inner Quadrant and 0.90% in the Lower half of the Breast. The percentage is 0.40% in Whole breast affected.

Graph No 8 Affected quadrants of breast

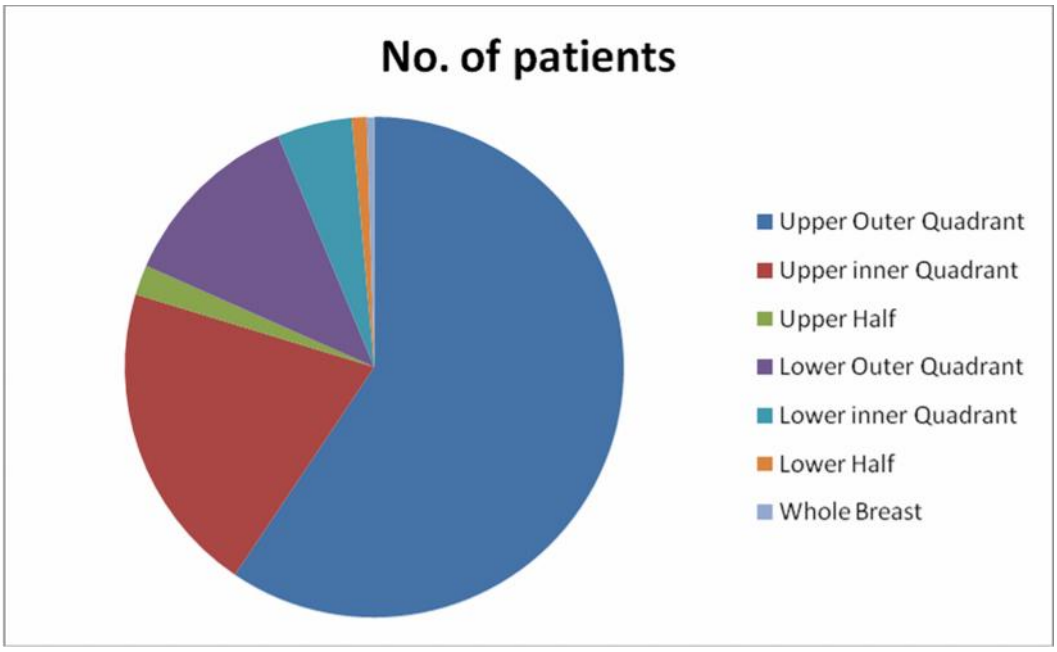


Table No.9.Agewise percentage in Benign and Malignant tumor.

Type of Tumour	18-30 Yrs	31-60 Yrs	61- 75 Yrs.
Fibroadenoma - Benign	50.0 %	21.0 %	0 %
Benign epithelial lesion - Benign	1.00 %	1.50 %	0%
Benign hyperplastic epithelial lesion - Benign	5.00 %	2.50 %	0%
Lipoma - Benign	0.00%	0.50 %	0%
Galactocoel - Benign	2.50 %	0.50%	0%
Dysplasia with Benign lesion - Benign	0.50 %	2.00%	0.50%
Lactadenoma - Benign	2.00 %	0.50%	0%
Ductactasia - Benign	0%	0.50 %	0%
I.D.C. and I.D.C.with mets- Malignant	0%	6.50%	3.50%

The above table shows that most of the patients of Fibroadenoma (50.0%) in the agegroup of 18-30. Whereas the patients of Benign hyperplastic epithelial lesion were found 5.00% in age droup of 18-30.Galactocoele is found in 2.50% of patients and Lactadenoma were found in 2.00% in the age group of 18-30 age group.

In the age group of 31 to 60, Benign hyperplastic epithelial lesion was 2.50% , whereas Intraductal Carcinoma was 6.50%

In age group of 61-75 yrs, Intraductal Carcinoma was 3.50%

Graph 9. Age wise percentage

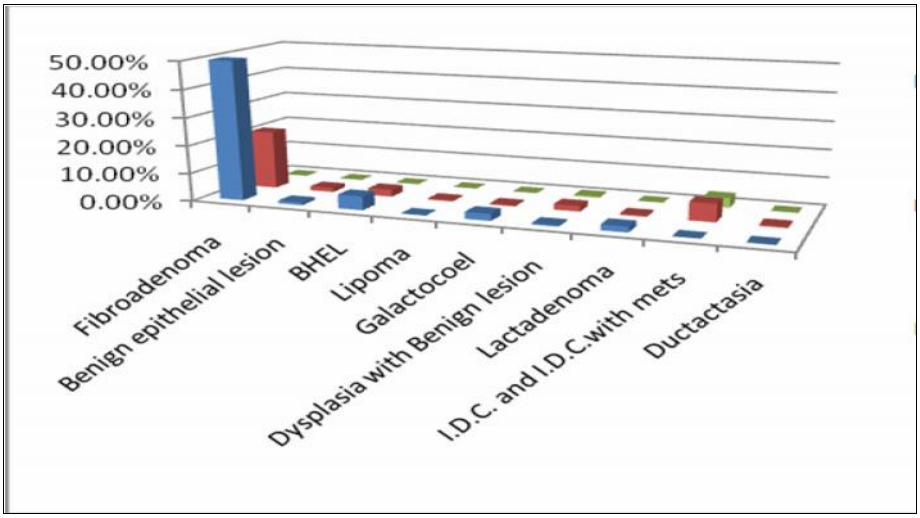
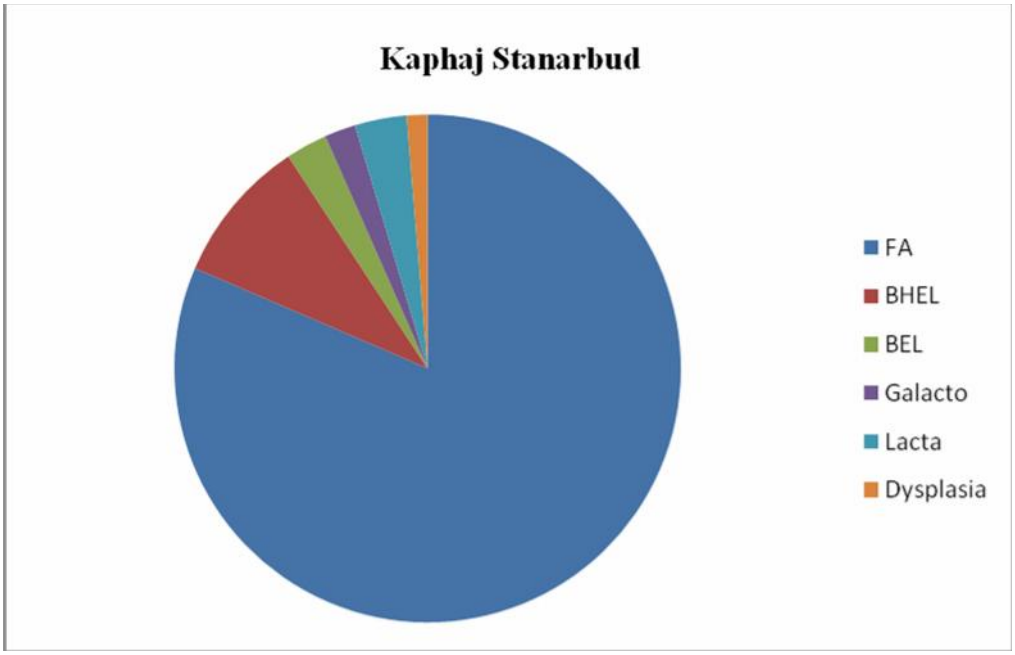


Table no. 10. Ayurvedic Nidan of stanarbud and their correlation with FNAC findings.

Kaphaj Stanarbud	Patients	Percentage
Fbroadenoma	123	81.45%
Benign Hyperplastic Epithelial Lesion	14	9.27%
Benign Epithelial Lesion	4	2.64%
Galactocoele	3	1.98%
Lactadenoma	5	3.31%
Dysplasia	2	1.32%

Graph no. 10 : Ayurvedic Nidan of stanarbud and their correlation with FNAC findings

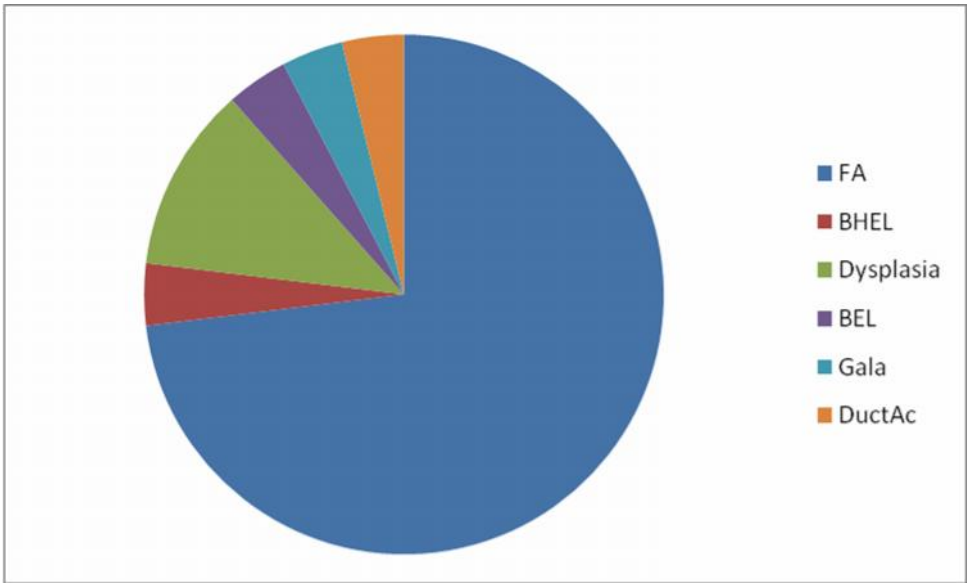


The above table shows that, the no of patients diagnosesd as a fibroadenoma were 123 the highest percentage found is 81.45%.

Table no.11. Vataj stanarbuda

Vataj Stanarbud	Patients	Percentage
Fbroadenoma	19	73.10%
Benign Hyperplastic Epithelial Lesion	1	3.84%
Dysplasia	3	11.50%
Benign Epithelial Lesion	1	3.84%
Galactocoele	1	3.84%
Ductectasia	1	3.84%

Graph no. 11: Vataj Stanarbud

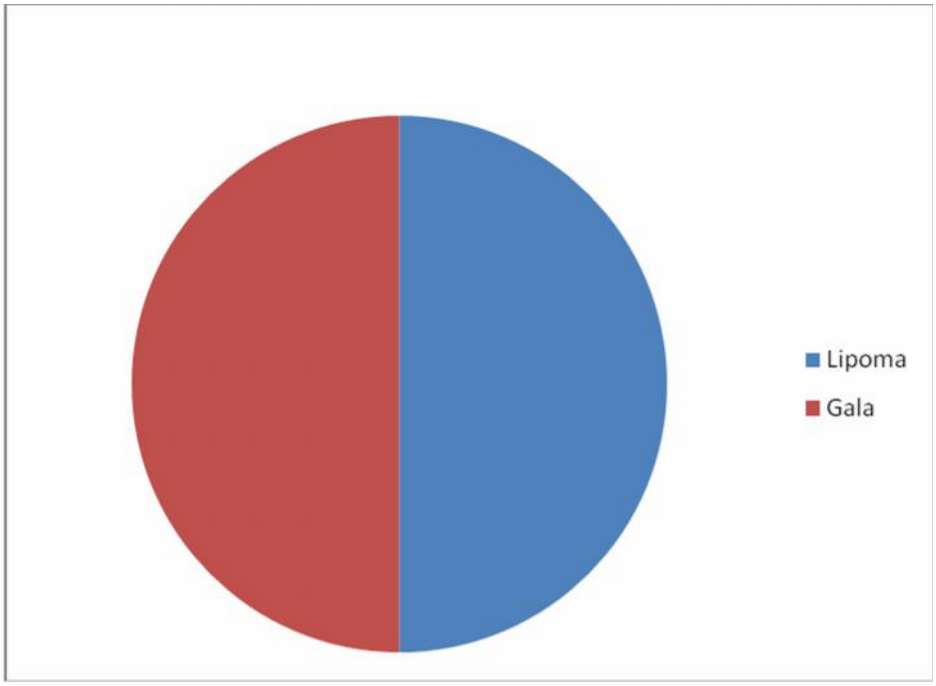


The above table shows that, the no of patients diagnosesd as a fibroadenoma were 19 (73.10%) while the remining lesions of brest shows lesser no and percentage.

Table No. 12: Medoj stanarbuda:

Madoj Stanarbud	Patients	Percentage
Lipoma	1	50%
Galactocole	1	50%

Graph no.12: Medoj Stanarbuda:

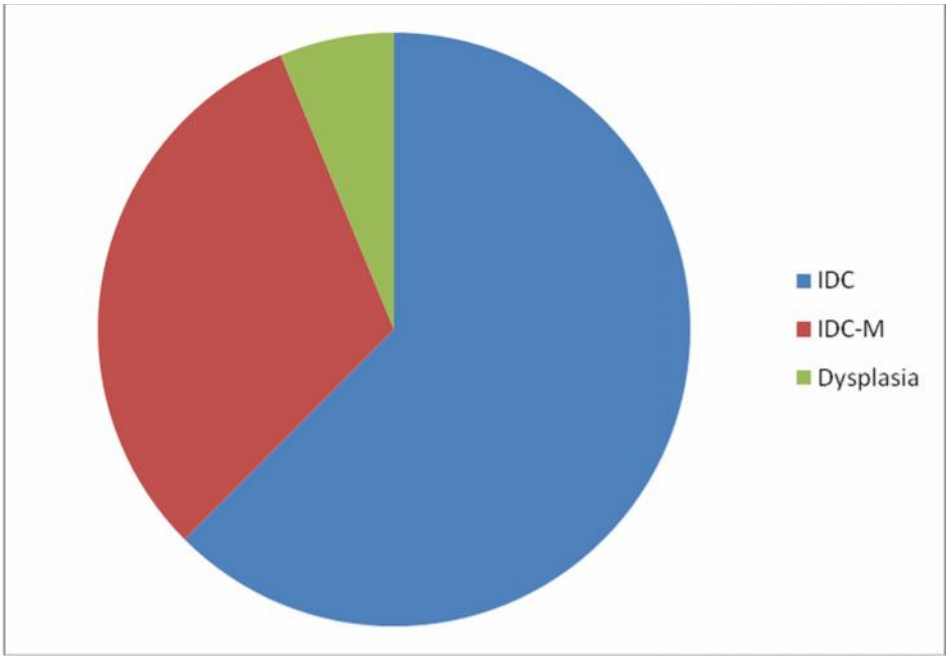


The above table shows that, the patients of medoj stanarduda were divided in to lipoma and galactocoele and the percentage is 50.00%

Table no.13: Mansaj stanarbuda:

Mansaj Stanarbud	Patients	Percentage
Intraductal Carcinoma	10	62.50%
Intraductal Carcinoma with Metastasis	5	31.25%
Dysplasia	1	6.25%

Graph no.13 : Mansaj Stanarbuda :

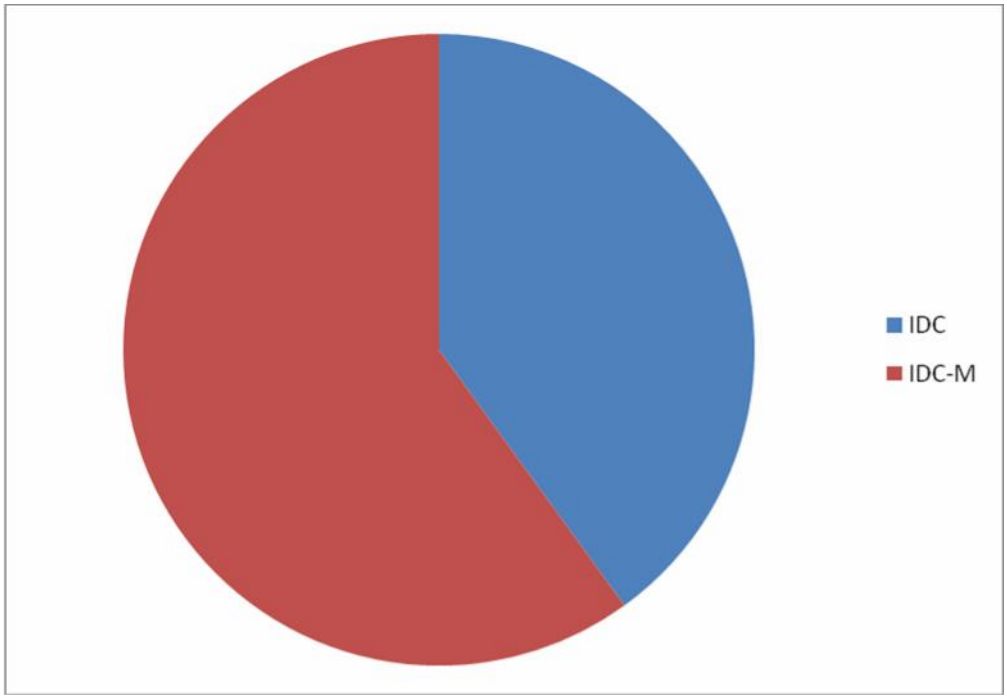


The above table shows that, intraductal carcinoma were highest in percentage (62.50%) while the percentage of intradutal carcinoma with metastasis, it is 31.25% and the patient diagnosed as a dysplasia is 6.25%.

Table no.14 : Raktaj stanarbuda :

Raktaj Stanarbud	Patients	Percentage
Intraductal Carcinoma	2	40%
Intraductal Carcinoma with Metastasis	3	60%

Graph no.14 : Raktaj Stanarbuda :



The above table shows that the percentage of inraductal carcinoma is 40.00% in Raktaj Stanarbuda while, intraductal carcinoma with metastasis is 60% in the persent study.

DISSCUSSION

Disscussion on Review of Literature:-

The special referances of stanarbuda were not mentioned in our samhita granthas, but the referances about arbuda were found in bruhtrai as well as laghutrai. And acharya told that according to sthan of the arbuda that arbuda should be denoted. In ayurvedic texts a term arbuda is used for condition similar to the tumour.In samhita granthas thay have etiopathological explanations, some basic guiding principles for the diagnosis as well as management in chraksamhita, sushrutsamhita, madhvnidan, bhavprakash, and haritsamhita. These statements by acharyas in ayurvedic texts gives an idea that they are having detailed knowledge about Arbuda.It was treated by sugery, cautery, and oral medicine, and panchkarma at that time. That means the management was very similar to the present one .So ayurveda can play very important role in the management of tumours. But somebody should find out the exact correlation between arbuda and tumours. According to charak the great physician it is necessary to diagnose the disease before starting treatment.

Discussion on Samprapti-

Samprapti according to our samhita granthas, vitiated doshas goes in raktnadi and then obstruct the way, due to this obstruction and extra large growth called arbuda develops. The modern pathogenesis is different in each and every type of tumour either it is benign or malignant. The clinical presentation as well as cytology differ in each type of tumour because tumour is an abnormal mass of tissue, which exceeds and is uncoordinated with that of normal tissues and persists in the same excessive manner whereas neoplasm is the mass of new tissue, which persists and grows independent of its surrounding structures and which has no physiological use.

Discussion on patients found during study:

While doing clinical work and research work it seems that most of the patients belongs to age 18-30 years. Majority patients were from lower socio-economic strata. There was shyness, unawareness regarding tumour of breast. This leads to delayed diagnosis in many patients. Most population of the patient was not aware about self

breast examination. There was lesser care about health and hygiene. Most of the patients were undernourished or malnourished due to poverty.

Disscussion on Observation-

Regarding the types of Arbuda the data shows that most of the patients were of Kaphaj Arbuda (81.5%) whereas medoj Arbuda is very less in percentage (1.00%)

While the observed causes of stanarbuda shows that out of 200 patients 41.50%patients were consuming bakery products, such as cake, and fast food. Where as spicy diet like red chilli in all the vegetables, cause is observed in 66% of the cases. Tea is observed the cause in 78% of patients. Whereas inadequate diet means malnutrition is found in 56.50% patients.

Regarding age of the patients it is significantly found that many young patients between age of 18-30 were coming for FNAC. In 31-60 years age the percentage found is 33.50%.whereas only 3 % patients were in the age group of 61 -75 yrs.

According to the size of breast lump it is found that the number of patients were 111 having the size 2-5 cm, whereas the number is 11 where the size of tomour is up to 2 cm, and 11 patients were found where the size of lump is more than 5cm. it is found in the present study that where the size of lump is 2-5 cm that patients were having benign types of tumour.

When the distribution of patients is made with the affected breast is found that the Right breast is involved predominanatly, 94 patients were found and the percentage is (47%)whereas Left breast affected in 80 cases, and (40%) The affected bilateral breasts were 26 cases with (13%). Right breast is affected predominantly.

Distribution of the affected quadrant of the breast gives data that upper outer quadrant of breast were affected more in number 123,and (59.40%) Upper inner quadrant affected in 42 cases (20.20%)Lower outer quadrant involved is in 25 cases(12.30%)Upperhalf involved in 4 cases (2.00%)Lower half involved in 2 cases (0.90%)Whole breast is affected in 1 case.(0.40%) It seems that upper outer quadrant of breast is involved in more cases but the cause is not found.

The percentage according to age also denotes that the highest 48.70% cases of fibroadenomas were in age group of 18-30 yr, 10% cases were in 31-60 yrs, and 0%

in 61-75 yrs of age. Whereas Infilterating duct cell carcinoma and IDC with mets cases were found in 6.40% in 31-60 age group and 2.50% cases were found in 61-75 age group means no any single case of IDC is found in 18-30 age group in the present study.

Discussion on FNAC-

Despite advancement in radiology or radiodiagnosis, FNAC holds its key important position. Unlike excisional biopsy, FNAC is simple, fast, effective and widely used tool for diagnosis in breast tumours. A preoperative diagnosis offers several advantages. Immediate diagnosis relieves the patient's anxiety and saves time, the definitive treatment can be planned in advance with the informed consent of the patient. If cancer is confirmed staging investigations (bone scan, liver scan) can be done preoperatively. Many benign conditions can be confidently diagnosed by fine needle cytology combined with radiological imaging and surgery can be avoided. Hospital facilities can be more economically used if the extent of surgery is known beforehand. The need for frozen section diagnosis is reduced. The percentage of complete sensitivity of FNAC in the breast cancer is 90-95% in most series. The aim should be a sensitivity of number less than 95% and this can be achieved with increasing experience. Sensitivity is lower for low grade carcinoma (invasive and in situ), lobular carcinoma, and very small and very large cancers. The positive predictive value of a malignant diagnosis is approximately 99%. But although rare occasional false positive diagnosis of malignancy are recorded in most series. Skill and experience are important in performing and in the preparation and reading the smear. Although the technique is simple, training and continuous practice are essential to acquire and to maintain skill .Significant accuracy occurs with experience.

Soon breast cancer will be the most prevalent malignancy in females , so effectiveness and use of fine needle aspiration cytology of breast will remain paramount in near future

Discussion on correlation between type of Stanarbuda and FNAC diagnosis-

The 200 patients were selected. The patients who were advised FNAC were selected for study. First they were evaluated for ayurvedic nidan. Then they were forwarded for FNAC. At the end , all data was charted and tabulated.

Kaphaj stanarbuda:

75.5% (151) patients were found with diagnosis of Kaphaj stanarbud out of 200 patients. Kaphaj stanarbuda was diagnosed on the basis of clinical examination and signs and symptoms of slow growth, painless or little pain at the sight, arbuda without any inflammatory signs.

Out of 151 patients of Kaphaj stanarbuda 81.45% (123) patients found to be of fibroadenoma (fibroadenoma without any inflammatory signs). 9.27% (14) were found to be of Benign Hyperplastic epithelial lesion. So we can correlate kaphaj stanarbud with fibroadenoma (i.e. fibroadenoma without any inflammatory signs)

Pittaj stanarbuda:

As the patients who were referred for FNAC , were selected for study purpose, not a single patient of pittaj stanarbuda was found in 200 patients.

Vataj stanarbuda :

13% (26) patients were found to be of vataj stanarbud. 73% (19) out of which were found to be of fibroadenoma with inflammatory signs and symptoms. 11.5% (3) patients were found to be of dysplasia. Based on above findings we can say that we can correlate Vataj Satanarbud with fibroadenoma with inflammatory features.

Only 2 cases of Medoj Stanarbud were found. But based on literary review and clinical findings , we can correlate Medoj Stanarbud with lipoma of breast.

Mansaj and Raktaj Stanarbud :

Total 16 patients of Mansaj Stanarbud and 5 patients of Raktaj Stanarbud were found. 62.5% (10) patients of Mansaj Stanarbud were found to be of Intraductal Carcinoma. 31.5% (5) patients of Mansaj Stanarbud were found to be of intraductal carcinoma with Metastasis.

Total 5 patients of Raktaj Stanarbud were found. 40% (2) of which were found to be intraductal carcinoma. 60% (3) of which were found to be of intraductal carcinoma with metastasis.

Discussion on clinical study and patients

1. Incidence of kaphaj arbuda is more common in stanarbuda. 2. Highest number of patients with stanarbuda were found in the age group of 18-30 years. 3. Kaphaj Stanarbuda can be correlated with fibroadenoma without any complication. 4. Vataj stanarbuda can be correlated with fibroadenoma with inflammatory signs. 5. Mansaj and raktaj stanarbuda were found in the age group of 31-60 years and 61-75 yrs. 6. Malignant tumours were found in the age group of 31-60 years, and 61-75 yrs. 7. The patients found in the age group of 18-30 were having benign tumours. 8. Incidence of fibroadenoma were highest in number and percentage. 9. Fibroadenoma can occur at in all age groups, but especially seen in young womens in the present study. 10. However IDC and IDC with metastasis found in the age group above 30 yr, these results indicate that the risk of breast cancer increases with the increase in age.11. Age of occurance of breast tumour have fallen sharply. 12. Majority of cases found of the right side in the present study.But it could not find anything in the literature, particularly with regard to occurrence of breast masses, increased incidence of right side. 13. In most of the cases of intraductual carcinoma the disease begins like mansaj stanarbuda and later it converts to raktaj stanarbuda. 14. In the present study nipple discharge is found only in the malignant cases. 15. Lack of awareness, socioeconomic poverty, shyness, stress associated lump, negligible care for health and hygiene were noticed in the present study. 16. Fine needle aspiration cytology is safe, rapid, and inexpensive diagnostic procedure for breast lesions. 7. The present study is expected to give valuable contribution for the planning of ayurvedic management of stanarbuda. 8. Most of the patients of breast cancer arrive too late for diagnosis, because of lack of awareness and do not have access to basic screening programmes. Breast cancer awareness and screening helps to detect cancer in early stage and this would improve the outcome

CONCLUSION

1. In the present study Vataj, Kaphaj and Medoj Arbuda at Stana were found Benign.

2. All Mansaj and Raktaj Arbuda at stana were found Malignant.

3. Mansaj Arbuda at stana can be correlated with intraductal carcinoma of initial stages where as Raktaj Arbuda at stana can be correlated with intraductal carcinoma with metastasis.

SCOPE OF THE STUDY

1. This study expects that this results may provide useful data that may be used by health institution in this district and other district to formulate health education programme focusing on breast cancer.

2. The study may provide a guideline to undertake further project on the management of stanarbuda with help of different formulations in Ayurveda.

CASE RECORD FORM :

Name of the Patient : **Date :**

Age :

Cast/Religian : Hindu/muslim/skihhh/christain/others

Gender : Male/female

Address :

Chief complains : **Duration :**

Onset of tumour :

Location/site/quadrant :

Discolouration of skin :

Discharge :

Appearance of tumour :

Swelling :

Tenderness :

Nipple retraction :

Other :

History of present illness :

History of past illness :

H/O Previous lump :

Minor/Major surgery/Mastectomy

Family history :

	Alive	Dead	Diseased	Health	Age
Father					
Mother					
Husband					
Brother					
Sister					
Son					
Daughter					

Treatment History :

Personal history :

Birth place: Anoop/ Jangal/Sadharan

Present residencial place : Annop/Jangal/Sadharan

Occupation : Skilled/unskilled/farming/business/service/housewife/student.

Socio-economic status : Higher/middle/lower

Educational status : Un-educated/ primary/secondary/Hr.seconadary/graduate/post graduate/Doctorate

Marital status : Married/Unmarried/Widow/Divorced

Food habits : Vegeterian/Non-vegeterian/Spicy

Apetite : Samanya/ati/madhyam

Addiction : No/coffee/tea/tobacco/smoking/alchohol/drugs/opium

Nidra : Samayk/atinidra/alpanidra/anidra/diwaswap

Koshtha : Kroora/Madhya/mridu

Agni : Sama/visham/tikshna/manda

Sharir : Sthul/krish/madhyam

Ashtvidh pariksha :

Nadi : Mal : Mutra : Jivha : Shabd :
Sparsh : Druk : Akriti :

Strotas parikshan :

1. Pranvah strotas : Nasa : Kanth: Hriday :
Phupusa :

2. Udakvah strotas : Talu : Kleda :

3. Annavah strotas : Amashay : Kshudha :

4. Rasvah strotas : Nadi : Twak : Hriday :

5. Raktavah strotas : Yakrit : Raktadab : Pleeha :

6. Mansvah strotas : Snayu : Twak : Khamala :

7. Arbuda examination :

Shula : Shoth : Aushnya :

Varna : Krishna/Rakta/Peeta/Twak/Shwet

Gandh : Foul smell/Ghrita/Madhu gandh

Strav/Discharge : Rakta/Puya

Daha :

Paka : Apkwa/Pakwa

Size :

Mobility :

Medovah strotas : Vrikka : Snayu : Sweda :

Asthivah strotas : Meda : Nakh : Kesha :

Majjavah strotas : Asthi : Sandhi : Akshisneh : Twaksne

Artav vah strotas : Garbhashay : Apatya : Rajpravritti **:**

Purishvah strotas : Malpravritti : Pakwashay : Guda:

Mutravah strotas : Mutrapravritti : colour :

Swedvah strotas : Swedpravritti : Gandh **:**

Indriya parikshan :

Karmendriya parikshan :

Nidan-panchak :

Hetu :

Purvarupa :

Rupa :

Upashaya:

Samprapti :

Vyadhi-vinishaya:

Doshvishesh :

Vyadhimarga :

Vikrit strotas:

Avastha :

Vyadhiprakara :

Criteria for the assessment for the examination of breast :

Age of puberty : Mode of onset :

Duration : H/O trauma :

Pain : Menstrual history : Regular/irregular

Amount of flow : Normal/scanty/increased

No.of conception : Primipara/multipara

Complication in pregnancy : Labour/sutikavastha

H/O conception : Yes/no

Type of contraceptive : Surgically/orally/locally

Local examination of breast :

Rate of growth : same/gradual/sudden increase

Lump in breast :

Inspection :

Nipple : Size : Shape : Colour : Shape : Surface:

Lump in breast: Rt/Lt/Both

Discharge from nipple: Color : Character : Quantity :

Areola : Swelling : Discharge : Ulcer:

Skin over the breast : Colour : Retraction : Dimpling of skin : Nodules :

Atrophy of skin: Margin of Arbuda: Peaud orange :

Engorgement of veins :

Breast : Size/shape/ Dimpling of the skin :

Arm/Thorax : Odema/colour of odema:

Palpation :

Local temperature: Tenderness :

Situation : Size and shape:

Consistency : Cystic : Firm :

Hard: Stony hard :

Fixity to the skin : Movable:

Immovable : Fixity to the breast tissue :

Fixity to the underlying fascia and muscles :

Fixity to the chest wall :

Examination of lymph nodes :

Palpation of lymph nodes :

Breacheal group :

Sunscapular group :

Central group:

Apical group :

Cervical lymph nodes :

Clinical diagnosis :

Cytological diagnosis :

Patholgy request form for Fine needle aspiration cytology :

Pathology request :

1. Date : __/___/___

2. Patient's name :

3. Date of birth :

4. Address :

5. Operator : Name/coded id/provider no.

6. Requesting clinician : Name/coded id/provider no.

Urgent request : Routine request:

If urgent,mobile phone no. Fax no.

7. Request : Cytology : Histology : Receptors : Other :

8. Specimen :

Date : ____/___/____ Time : _____

Site sampled : Breast : Lymph node : Skin : Other :

Site position : side + o' clock _____distance from nipple.

9. Site of lesion :

10. History :

Medical history : _____

Clinical history : _____

11. Imaging finding :

12. Provisional diagnosis :

13. Copies of report to :

TILAK MAHARASHTRA VIDYAPEETH, PUNE
DEPARTMENT OF AYURVED

Informed written consent

Name -_____

1. I confirm that I have read & understood the information for the study & have the opportunity to ask the questions.

2. I understand that my participation in the study is voluntary & I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected.

3. I understand that the sponsors of the clinical trial are working on the sponsor's behalf, the ethical committee & the regulatory authority will not need my permission to look at my health records that may be conducted in relation to, even if I withdraw from trial. I agree to this access. However I understand that my identity will not be revealed in any information released to third party or published.

4. Iagree not to restrict the use of any data or result that arises from this study provided such a use is only for scientific purpose.

5. I agree to take part in this study.

Signature of volunteer

Signature of investigator

Signature of guide

Date:

Place:

Master Chart of Benign and Malignant Tumours.

Sr.No.	Cyto.No	Age			Affected breast			Quadrant							BENIGN							MALIGNANT				SIZE OF LUMP		
		18-30	31-60	61-75	Right	Left	Bilateral	UO	UI	UH ALF	LO	LI	LHA LF	F.A	B.E.L.	LA.ADE.	LIPOMA	BEN. H.E.L.	Gala.	Duct. etc.	B.L.DYS.	MET. CA	E.NEO. D.C.	I.D.C.	FIB. SAR.		2-5CM	5-10CM
1	189913	+				+		+						+												2x2		
2	513	+				+		+						+													4*2	
3	7	+			+						+			+													4*4	
4	10		+		+			+						+													2*4	
5	13,13	+				+			+					+												2*2		
6	1713	+				+					+			+												2*2		
7	2913	+			+			+						+												2*2	3*3	
8	3813		+		+			+							+													3*3	
9	5013		+		+			+						+												2*2		
10	5213		+			+			+														+		+		2*2		
11	5313		+			+																		+			3*3	
12	5513	+				+		+						+												2*2		
13	5613		+			+					+			+												2*2		
14	177913		+		+			+						+												1.5*1.5		
15	5813		+			+		+									+										3.5*3.5	
16	6213		+		+			+						+													3*2	
17	6513	+				+							+	+														6*6
18	6813	+				+		+						+												2*2		
19	7613	+				+		+						+													3*3	
20	8713		+		+			+										+									3*2	
21	8913		+		+						+			+												1.5*1.5		
22	9813	+			+									+												2*2		
23	10613	+			+			+											+							1*1		
24	10913	+				+		+						+													3*3	
25	11213	+			+			+						+													3*3	

26	11513		+				+	+						+												3*3	
27	12313		+				+	+						+												3*3	
28	12413	+				+			+					+												3*3	
29	12813	+					+	+						+												3*3	
30	13113		+			+		+						+												4*4	
31	13313		+				+	+	+						+											4*3	
32	13613	+			+						+				+											5*5	
33	14013		+				+				+										+					1*1	
34	14113		+				+	+																		3*3	
35	14213		+			+		+						+												3*2	
36	14313	+			+				+										+							1*1	
37	15513		+		+			+																+			8*6
38	15413	+			+			+						+												3*3	
39	14413	+			+			+						+												4*3	
40	16013	+					+		+					+												3*3	
41	15513		+		+			+														+		+		1*1	
42	21113	+			+			+						+												4*2	
43	22413		+					+						+											1.5*1.5		
44	24013	+			+			+						+												2*2	
45	24513		+			+		+						+												3*3	
46	26913		+			+				+												+		+		1*1		5*5
47	25313		+			+		+						+													5*5
48	27313		+			+			+					+												3*3	
49	28313	+			+				+					+												4*3	
50	28513		+		+				+								+								2*3	4*4	
51	29213	+			+				+					+												3*2	
52	30813		+		+			+															+			2*2	
53	31513		+			+					+	+												+		3*3	4*2	
54	33613		+			+			+					+												2*1		
55	34413	+			+			+						+												4*4	
56	31813		+				+	+			+											+		+		2*2 Multi		

57	35213	+				+					+			+												3*2	
58	36213	+			+			+						+													4*4	
59	34513	+				+						+										+				1*1		
60	38413		+			+		+																	+		3*3	
61	39213	+			+						+			+												2*2		
62	39913	+				+		+						+												2*2		
63	40313		+		+							+									+					2*2		
64	40413	+			+			+						+													3*3	
65	43713	+			+			+						+													3*3	
66	45113	+			+			+						+													4*4	
67	46113	+			+			+						+													3*2	
68	46513		+			+		+						+													3*2	
69	177413	+				+		+						+												2*2		
70	48113	+			+				+					+													4*4	
71	48513		+			+			+					+													4*4	
72	48813			+		+							+										+		+			7*7
73	49313		+			+		+																	+	2*2	3*1	
74	50213	+			+			+						+												2*2		
75	50613	+					+	+						+												2*2	4*4	
76	50713			+		+		+	+														+		+	0.5*0.5	4*4	
77	52413	+			+			+						+													3*3	
78	53413	+				+		+						+													3*2	
79	54313	+			+				+					+												2*2		
80	55013	+					+	+	+					+												2*2	3*3	
81	55413	+			+				+					+													3*3	
82	55213		+			+			+					+													3*3	
83	56413			+	+					+															+			8*6
84	58013	+				+		+								+											3*3	
85	57313		+			+						+		+													3*2	
86	56913		+			+		+	+					+												1*1		
87	53413		+				+		+		+										+					1.5*1.5	2.5*2.5	

88	58813	+			+			+						+												3*2	
89	58913	+			+			+						+												2*2		
90	59413		+			+		+						+												2*2		
91	59913	+				+		+						+												2*2		
92	60313		+		+						+				+												3*2	
93	61113	+					+	+										+								2*2		
94	60613		+			+		+										+									4*3	
95	62013	+				+		+						+												2*2		
96	62113	+				+		+						+												2*2		
97	63913	+			+			+						+													4*4	
98	62313	+			+							+		+												2*2		
99	66313	+				+		+						+												0.5*0.5		
100	66013		+			+		+						+													3*3	
101	66113	+					+	+						+													3*3	
102	65713	+				+			+									+								2*2		
103	65613		+			+			+					+												1*1		
104	178813		+				+		+					+				+								2*1	2*2	
105	72013	+					+	+						+													3*3,3*3	
106	73013		+		+				+																+		4*4	
107	74313	+					+	+							+				+								3*2	
108	75213	+				+		+						+													3*3	
109	75413	+			+			+						+													3*3	
110	76313	+					+	+						+													3*3,4*4	
111	78213		+		+					**w**																+		10*10
112	177913		+		+			+						+												1.5*1.5		
113	78113	+					+	+	+					+													3*3,3*3	
114	79513		+				+	+						+												2*2		
115	81313	+				+					+							+								2*2		
116	81613	+				+		+						+													3*3	
117	81713	+			+						+			+													3*3	
118	82813	+			+							+		+												2*2		

119	84313	+				+			+					+												1*1		
120	85613	+			+			+						+													4*4	
121	100713	+				+		+						+													3*3	
122	103613	+			+						+			+													3*3	
123	103713	+				+					+							+									3*2	
124	104313	+					+	+							+											2*2,2*2		
125	105013	+				+		+										+								1.5*1.5		
126	105713		+		+				+					+													4*4	
127	107513	+				+						+		+												2*2		
128	107913	+			+			+										+								2*2		
129	108013	+				+			+									+								1.5*1.5		
130	111613		+		+						+			+												2*2		
131	111713		+		+			+						+												2*2		
132	176913	+			+			+								+										1*1		
133	112313	+						+						+												1*1		
134	112413	+			+			+						+												1*1		
135	19313	+			+			+						+												1*1		
136	113413		+		+						+			+												2*2		
137	113913		+			+		+						+												2*2		
138	114513	+			+				+					+												2*2		
139	114913	+				+		+						+												2*2		
140	179613		+		+							+									+					3*3		
141	115113		+			+			+									+								3*3		
142	115813	+					+	+						+												2*2	3*3	
143	116613		+		+			+						+												1*1		
144	185513	+			+			+						+													3*3	
145	118613	+			+				+					+												1*1		
146	183213		+		+			+													+							5*4
147	118813	+			+			+						+													2*2	
148	118913		+		+			+														+		+		1*1		6*6
149	119013	+			+				+					+													2*2	

150	120013		+			+		+						+												2*2	
151	175513			+	+			+													+					1*1		
152	141313	+				+					+							+									2*2	
153	141713	+			+						+					+										1*1		
154	142413	+				+		+						+												2*2		
155	180713	+			+				+					+													4*4	
156	185513	+			+			+						+													3*3	
157	148313		+			+		+																	+		3*3	
158	148013	+				+		+											+								3*3	
159	148913	+			+			+								+											3*3	
160	149213		+				+	+	+									+								2*2	4*4	
161	149713	+				+		+						+														5*5
162	149913	+			+				+							+											3*3	
163	152513		+		+						+														+		3*3	
164	185213	+				+			+					+												1*2		
165	153013	+			+			+						+													3*4	
166	153713	+			+			+						+												2*2		
167	153813	+			+				+					+												1.5*1.5		
168	154113	+			+				+							+										1*1		
169	155813	+				+			+					+													3*3	
170	157813	+				+			+										+								3*3	
171	156113		+		+			+						+												2*2		
172	156613	+				+		+						+												2*2		
173	157313	+			+			+						+												2*2		
174	158813	+				+		+										+								2*2		
175	159713		+			+					+			+												0.5*0.5		
176	160813		+			+		+										+								2*2		
177	162613	+				+					+			+													3*3	
178	163013	+					+			+				+													3*3	
179	162813	+			+							+		+												1*1		
180	163913	+			+						+			+												2*2		

181	164313	+			+				+					+												2*2		
182	167913	+					+	+						+													4*4	
183	168413	+			+			+						+													4*3	
184	164813		+			+						+		+													3*3	
185	183713			+	+			+																	+		4*4	
186	170513	+				+		+								+										2*1		
187	170713	+			+			+						+												1*1		
188	170913		+		+			+						+			+										4*4,3*3	
189	171113	+					+	+						+												1.5*1.5	3*3	
190	171913	+				+		+						+												2*2		
191	172213	+			+						+			+												1.5*1.5		
192	172713	+				+		+						+												2*2		
193	174713	+				+		+						+												2*2		
194	174913			+	+			+														+		+		1*1		10*10
195	175213	+			+			+						+													3*3	
196	175813	+				+		+						+													3*2	
197	180813	+				+			+					+												1.5*1.5		
198	180913	+				+		+						+													3*3	
199	178613	+			+					+				+					+							1.5*1.5		
200	178413		+				+	+						+												2*2		

MASTER CHART - AYURVEDIC DIGNOSIS

Sr No	Reg No	Cyt No	Firm	Mobile	Tenderness	Slow Growth	Discharge	Swelling	Retraction	Hardness	***diagnosis***	Sparsha	Varns	Ruja	Shof	Akruti	Sthir	Slow Grwth	Discharge	Itching	***Nidan***
1	600	513	1	1	1	0	1	1	0	0	FA	Firm	0	1	1	4+3	0	1	0	0	Vataj
2	579	7	1	1	0	1	0	1	0	0	FA	Firm	0	0	1	2+2	0	1	0	0	Kafaj
3	942	10	1	1	1	1	0	0	0	0	FA	Firm	0	0	0	2+4	0	1	0	0	Kafaj
4	188	1313	1	1	1	1	1	0	0	0	FA	Firm	0	0	1	2+2	0	1	0	0	Kafaj
5	1444	1713	1	1	0	1	0	0	0	0	Fa	Firm	0	0	0	2+2	0	1	0	0	Kafaj
6	2071	2913	1	1	1	0	0	1	0	0	Fa	Firm	0	0	1	3+2	0	1	0	0	Kafaj
7	5050	5013	1	1	0	0	0	1	0	0	FA	Firm	0	0	1	2+2	0	0	0	0	Kafaj
8	5760	5513	1	1	0	1	0	0	0	0	Fa	Firm	0	0	0	2+2	0	1	0	0	Kafaj
9	6022	5613	1	1	1	1	0	0	0	0	FA	Firm	0	1	0	2+2	0	1	0	0	Kafaj
10	177095	177913	1	1	1	1	0	0	0	0	FA	Firm	0	0	0	1.5+1.5	0	0	0	0	Kafaj
11	404	6213	1	1	0	0	0	0	0	0	FA	Firm	0	0	0	3+2	0	1	0	0	Kafaj
12	6608	6513	1	1	1	1	0	1	0	0	FA	Firm	0	1	1	6+6	0	1	0	0	Vataj
13	7116	6813	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
14	7523	7613	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
15	9603	8913	1	1	1	0	0	1	0	0	FA	Firm	0	1	1	1.5+1.5	0	0	0	0	Kafaj
16	9482	9813	1	1	1	1	0	1	0	0	FA	Firm	0	1	1	2+2	0	0	0	0	Kafaj
17	1456	11913	1	1	1	1	0	0	0	0	FA	Firm	0	1	1	3+3	0	1	0	0	Kafaj
18	11535	11213	1	1	1	1	0	0	0	0	FA	Firm	0	1	0	3+3	0	1	0	0	Kafaj
19	12047	11513	1	1	1	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
20	11719	12313	1	1	1	1	0	0	0	0	FA	Firm	0	1	0	3+3	0	1	0	0	Kafaj
21	12558	12413	1	1	1	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
22	12947	12813	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
23	13069	13113	1	1	1	1	0	0	0	0	FA	Firm	0	0	0	4+4	0	1	0	0	Kafaj
24	13083	13313	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	4+3	0	1	0	0	Kafaj
25	13555	13613	1	1	0	1	0	0	0	0	FA	Firm	0	1	0	5+5	0	1	0	0	Vataj
26	8793	14013	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
27	2741	14113	1	1	1	0	0	0	0	0	FA	Firm	0	1	1	3+3	0	1	0	0	Vataj
28	14488	14213	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+2	0	1	0	0	Kafaj
29	16029	15413	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
30	15010	14413	1	1	0	0	0	0	0	0	FA	Firm	0	1	0	4+3	0	0	0	0	Vataj
31	16127	16013	1	1	1	1	0	0	0	0	FA	Firm	0	1	0	3+3	0	1	0	0	Kafaj
32	20567	21113	0	1	1	0	0	0	0	0	FA	soft	0	0	0	4+2	0	0	0	0	Kafaj
33	21750	22413	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	1.5+1.5	0	1	0	0	Kafaj
34	23804	24013	1	1	0	0	0	1	0	0	FA	Firm	0	0	1	2+2	0	0	0	0	Kafaj
35	23783	24513	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
36	24511	25313	1	1	1	1	0	0	0	0	FA	Firm	0	1	0	5+5	0	1	0	0	Vataj

37	25175	27313	1	1	0	1	0	0	0	0	FA	Firm	0	1	0	3+3	0	1	0	0	Kafaj
38	26552	28313	1	1	0	0	0	1	0	0	FA	Firm	0	1	1	4+3	0	0	0	0	Kafaj
39	27167	29213	1	1	0	0	0	0	0	0	FA	Firm	0	0	0	3+2	0	0	0	0	Kafaj
40	30032	33613	1	1	0	1	0	0	0	0	FA	Firm	0	1	1	2+1	0	1	0	0	Kafaj
41	31333	34413	1	1	0	1	0	0	0	0	FA	Firm	0	1	0	4+4	0	1	0	0	Kafaj
42	32164	35213	1	1	1	1	0	1	0	0	FA	Firm	0	2	1	3+2	0	1	0	0	Vataj
43	32909	36213	1	1	0	1	0	0	0	0	FA	Firm	0	1	0	4+4	0	1	0	0	Kafaj
44	36236	39213	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
45	35679	39913	1	1	0	1	0	1	0	0	FA	Firm	0	1	1	2+2	0	1	0	0	Kafaj
46	37713	40413	1	1	1	1	0	1	0	0	FA	Firm	0	0	1	3+2	0	1	0	0	Kafaj
47	41029	43713	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
48	42651	45113	1	1	0	1	0	1	0	0	FA	Firm	0	0	1	4+4	0	1	0	0	Kafaj
49	43693	46113	1	1	0	0	0	0	0	0	FA	Firm	0	0	0	3+1	0	0	0	0	Kafaj
50	44509	46513	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+2	0	1	0	0	Kafaj
51	176512	177413	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
52	46412	48113	1	1	0	1	0	1	0	0	FA	Firm	0	1	1	4+4	0	1	0	0	Vataj
53	46797	48513	1	1	1	1	1	0	0	0	FA	Firm	0	1	0	4+4	0	1	1	0	Vataj
54	48253	50213	1	1	1	1	0	0	0	0	FA	Firm	0	1	0	2+2	0	1	0	0	Kafaj
55	48117	50613	1	1	1	1	0	0	0	0	Fa	Firm	0	1	0	4+4	0	1	0	0	Kafaj
56	50636	52413	1	1	0	0	0	1	0	0	Fa	Firm	0	0	1	3+3	0	0	0	0	Kafaj
57	52219	53513	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+1	0	1	0	0	Kafaj
58	53218	54313	1	1	1	1	0	1	0	0	Fa	Firm	0	1	1	2+2	0	1	0	0	Kafaj
59	54427	55013	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
60	46271	55413	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
61	4781	55213	1	1	1	1	0	0	0	0	FA	Firm	0	0	1	3+3	0	1	0	0	Kafaj
62	56235	57313	1	1	0	1	0	0	0	0	FA	Firm	1	0	0	2+2	0	1	0	0	Vataj
63	55561	56913	1	1	1	0	1	1	0	0	FA	Firm	0	1	1	Multiple	0	0	0	0	Vataj
64	53951	58813	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+2	0	1	0	0	Kafaj
65	58754	58913	1	1	1	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
66	58158	59413	1	1	0	1	1	1	0	0	FA	Firm	0	1	1	2+2	0	1	1	1	Kafaj
67	58802	59913	1	1	1	0	0	1	0	0	FA	Firm	0	1	1	2+2	0	0	0	0	Kafaj
68	59108	60313	1	1	0	1	1	0	0	0	FA	Firm	0	0	1	3+2	0	1	1	0	Kafaj
69	58853	62013	0	1	1	1	0	0	0	0	FA	Firm	0	1	1	2+2	0	1	0	0	Kafaj
70	60337	62113	1	1	0	1	0	0	0	0	FA	Firm	0	1	0	2+2	0	1	0	0	Kafaj
71	62179	63913	1	1	0	1	0	0	0	0	FA	Firm	0	1	1	4+4	0	1	0	0	Vataj
72	60748	62313	1	1	1	1	0	0	0	0	FA	Firm	0	1	0	2+2	0	1	0	0	Kafaj
73	63674	66313	1	1	1	1	0	0	0	0	FA	Firm	0	0	0	0.5+0.5	0	1	0	0	Kafaj
74	63670	66013	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
75	63701	66113	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
76	36537	65613	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	1+1	0	1	0	0	Kafaj
77	69093	72013	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
78	73719	75213	1	1	1	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
79	73597	75413	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
80	74402	76313	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	4+4	0	1	0	0	Kafaj

81	177095	177913	1	1	1	1	0	0	0	0	FA	Firm	0	0	0	1.5+1.5	0	1	0	0	Kafaj
82	75904	78113	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
83	76865	79513	1	1	1	1	0	0	0	0	FA	Firm	0	1	0	2+2	0	1	0	0	Kafaj
84	79022	81613	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
85	79228	81713	1	1	0	1	0	1	0	0	FA	Firm	0	0	1	3+3	0	1	0	0	Kafaj
86	79951	82813	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
87	6117	84313	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	1+1	0	1	0	0	Kafaj
88	82618	85613	1	1	1	1	0	1	0	0	FA	Firm	0	1	1	4+4	0	1	0	0	Vataj
89	96222	100713	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
90	99195	103613	0	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
91	8585	105713	1	1	0	1	0	1	0	0	FA	Firm	0	1	1	4+4	0	1	0	0	Vataj
92	202910	107513	1	1	0	0	0	0	0	0	FA	Firm	0	0	1	2+2	0	0	0	0	Kafaj
93	107537	11613	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	1.5+1.5	0	1	0	0	Kafaj
94	107867	111713	1	1	1	0	0	0	0	0	FA	Firm	0	1	1	2+2	0	0	0	0	Vataj
95	108008	112313	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	1+1	0	1	0	0	Kafaj
96	107598	112113	1	1	0	1	0	0	0	0	FA	Firm	0	0	1	1+1	0	1	0	0	Kafaj
97	185437	190313	1	1	0	1	0	0	0	0	FA	Firm	0	0	1	1+1	0	1	0	0	Kafaj
98	105939	113413	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
99	73230	113913	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
100	110361	114513	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
101	110236	114913	1	1	1	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
102	110960	115813	1	1	0	1	0	0	0	0	FA	soft	0	0	0	3+3	0	1	0	0	Kafaj
103	112199	116613	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	1+1	0	1	0	0	Kafaj
104	185833	185513	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
105	113443	118613	1	1	1	1	0	0	0	0	FA	Firm	0	0	0	1+1	0	1	0	0	Kafaj
106	113076	118813	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
107	8957	119013	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
108	9671	120013	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
109	140403	142413	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
110	179733	180713	1	1	0	1	0	1	0	0	FA	Firm	0	1	1	4+4	0	1	0	0	Vataj
111	185833	185513	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
112	146494	149713	1	1	1	1	0	1	0	0	FA	Firm	0	1	1	5+5	0	1	0	0	Vataj
113	185437	185213	1	1	1	1	0	0	0	0	FA	Firm	0	1	0	2+2	0	1	0	0	Kafaj
114	149744	503013	1	1	1	1	0	0	0	0	FA	Firm	0	1	0	3+4	0	1	0	0	Kafaj
115	150271	153713	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
116	150272	1538213	1	1	0	0	0	0	0	0	FA	Firm	0	0	0	1.5+1.5	0	0	0	0	Kafaj
117	152431	155813	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
118	152078	156113	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
119	153612	157313	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
120	13225	159713	1	1	1	1	0	0	0	0	FA	Firm	0	1	0	0.5+0.5	0	1	0	0	Kafaj
121	159711	162613	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
122	160586	163013	1	1	0	1	0	1	0	0	FA	Firm	0	1	0	3+3	0	1	0	0	Vataj
123	159379	162813	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	1+1	0	1	0	0	Kafaj
124	160336	163913	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj

125	161463	164313	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
126	163810	167913	1	1	1	1	0	1	0	0	FA	Firm	0	1	1	4+4	0	1	0	0	Vataj
127	166565	168413	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	4+3	0	1	0	0	Kafaj
128	162162	164813	0	1	1	1	0	0	0	0	FA	soft	0	1	0	3+2	0	0	0	0	Kafaj
129	167474	170713	0	1	1	1	0	0	0	0	FA	Firm	0	0	0	1+1	0	1	0	0	Kafaj
130	12568	17113	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+2	0	1	0	0	Kafaj
131	170188	171913	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
132	171333	172213	1	1	1	1	0	0	0	0	FA	Firm	0	0	0	1.5+1.5	0	1	0	0	Kafaj
133	171263	172713	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
134	173196	174713	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	2+2	0	1	0	0	Kafaj
135	173836	175213	1	1	0	1	0	1	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
136	174048	175813	1	1	0	0	0	0	0	0	FA	Firm	0	0	0	3+2	0	0	0	0	Kafaj
137	180595	180813	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	1.5+1.5	0	1	0	0	Kafaj
138	180345	180913	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
139	130205	178613	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	1+1	0	1	0	0	Kafaj
140	175489	178413	1	1	0	1	0	0	0	0	FA	Firm	0	0	0	3+3	0	1	0	0	Kafaj
141	9397	8713	1	1	0	0	0	1	0	0	Ben.Hyp.Les	firm	0	0	1	3+2	0	0	0	0	Kafaj
142	177286	178813	1	1	0	0	0	0	0	0	Ben.Hyp.Les	firm	0	0	1	2+2	0	0	0	0	Kafaj
143	110259	115113	1	1	0	0	0	0	0	0	Ben.Hyp.Les	firm	0	0	0	3+3	0	0	0	0	Kafaj
144	59276	611113	1	1	0	1	0	1	0	0	Ben.Hyp.Les	firm	0	0	1	3+2	0	1	0	0	Kafaj
145	58926	60613	1	1	1	1	0	0	0	0	Ben.Hyp.Les	firm	0	0	1	4+3	0	1	0	0	Kafaj
146	64101	65713	1	1	1	1	0	0	0	0	Ben.Hyp.Les	firm	0	0	0	2+2	0	1	0	0	Kafaj
147	7900	81313	1	1	0	1	0	0	0	0	Ben.Hyp.Les	firm	0	0	0	2+2	0	1	0	0	Kafaj
148	99089	103713	0	1	0	1	0	0	0	0	Ben.Hyp.Les	firm	0	0	0	3+2	0	1	0	0	Kafaj
149	100485	105013	1	1	0	1	0	0	0	0	Ben.Hyp.Les	firm	0	0	1	1.5+1.5	0	1	0	0	Kafaj
150	103150	107913	1	1	0	0	0	0	0	0	Ben.Hyp.Les	firm	0	0	0	2+2	0	0	0	0	Kafaj
151	108377	108013	1	1	0	1	0	0	0	0	Ben.Hyp.Les	firm	0	0	0	1.5+1.5	0	1	0	0	Kafaj
152	9171	141313	1	1	0	1	0	0	0	0	Ben.Hyp.Les	firm	0	1	0	2+2	0	1	0	0	Kafaj
153	145712	149213	1	1	1	0	0	1	0	0	Ben.Hyp.Les	firm	0	1	1	4+4	0	0	0	0	Vataj
154	13123	158813	0	1	0	1	0	0	0	0	Ben.Hyp.Les	firm	0	1	0	2+2	0	1	0	0	Kafaj
155	156198	160813	1	1	0	1	0	0	0	0	Ben.Hyp.Les	firm	0	0	0	2+2	0	1	0	0	Kafaj
156	234	3813	1	1	0	1	0	0	0	0	BEL	firm	0	0	0	3+3	0	1	0	0	Kafaj
157	98906	104213	1	1	0	1	0	0	0	0	BEL	firm	0	0	0	2+2	0	1	0	0	Kafaj
158	152444	155613	1	1	0	0	0	0	0	0	BEL	firm	0	0	0	2+2	0	1	0	0	Kafaj
159	166290	170513	1	1	0	1	0	0	0	0	BEL	firm	0	1	0	2+1	0	1	0	0	Kafaj
160	140093	141713	1	1	1	1	0	0	0	0	Gala	firm	0	0	0	1+1	0	1	0	0	Kafaj
161	175575	176913	1	1	0	1	0	0	0	0	lactadenoma	firm	0	0	0	1+1	0	1	0	0	Kafaj
162	145817	148913	1	1	1	1	0	0	0	0	lactadenoma	firm	0	0	0	3+3	0	1	0	0	Kafaj
163	147332	149913	1	1	1	1	0	0	0	0	lactadenoma	firm	0	1	0	3+3	0	1	0	0	Kafaj
164	150771	154113	0	1	1	0	0	0	0	0	lactadenoma	soft	0	0	0	ill defines	0	0	0	0	Kafaj
165	56685	58013	1	1	1	1	0	0	0	0	lactadenoma	firm	0	1	0	ill defines	0	1	0	0	Kafaj
166	153748	157813	1	1	0	1	0	0	0	0	Gala	firm	0	0	1	3+3	0	1	0	0	Kafaj
167	144853	148613	1	1	0	1	0	0	0	0	Gala	firm	0	0	0	3+3	0	1	0	0	Kafaj
168	71784	74313	1	1	1	1	0	1	0	0	Gala+BEL	firm	0	1	1	3+3	0	1	0	0	vataj

169	14863	14313	0	1	1	1	0	1	0	0	Gala	soft	0	1	1	1+1	0	1	0	0	vataj
170	11170	10613	0	1	0	1	0	0	0	0	Gala	soft	0	0	1	1+1	0	1	0	0	Medoj
171	8793	14013	1	1	1	0	0	1	0	0	dysplasia c BEL	firm	0	1	1	3+3	0	0	0	0	vataj
172	28106	30813	1	1	0	1	1	0	0	0	dysplasia c BEL	firm	0	0	0	2+2	0	1	1	0	Kafaj
173	181118	183213	1	1	0	1	0	1	0	0	dysplasia c BEL	firm	0	1	1	5+4	0	1	0	0	vataj
174	178105	179613	Hard	fixed	0	1	0	0	1	1	dysplasia c BEL	firm	1	0	0	3+3	1	1	0	0	Mansaj
175	31298	34513	1	1	0	1	0	1	0	0	dysplasia c BEL	firm	0	1	1	1+1	0	1	0	0	vataj
176	49575	53413	1	1	0	1	0	0	0	0	dysplasia c BEL	firm	0	0	0	2.5+2.5	0	1	0	0	Kafaj
177	37044	40313	1	1	0	1	1	1	1	0	duct ectasia	firm	0	1	1	2+2	0	1	1	0	Vataj
178	5195	5813	0	1	0	1	0	0	0	0	lipoma	soft	0	0	0	5+5	0	1	0	0	Medoj
179	26723	28513	1	1	1	1	0	0	0	0	FA	firm	0	0	1	4+4	0	1	0	0	Kafaj
180	5100	5313	1	1	0	1	0	0	1	1	IDC	firm	0	0	0	3+3	0	1	0	0	mansaj
181	15735	15513	1	1	0	1	0	0	1	1	IDC	firm	0	0	0	8+6	1	1	0	0	mansaj
182	28660	31513	hard	fixed	1	1	0	0	1	1	IDC	hard	0	0	0	4+2	1	1	0	0	mansaj
183	8146	38413	hard	1	0	1	1	0	1	1	IDC	hard	0	1	1	3+3	1	1	1	0	Raktaj
184	10929	48813	hard	fixed	0	1	0	0	1	1	IDC	hard	0	0	0	7+7	1	1	0	0	mansaj
185	47094	49313	hard	fixed	0	0	0	0	0	1	IDC	hard	1	0	1	3+1	1	0	0	0	mansaj
186	12938	56413	hard	fixed	0	1	1	0	0	1	IDC	hard	0	1	0	8+6	1	1	1	0	Raktaj
187	70741	73013	hard	1	0	1	0	0	0	1	IDC	hard	0	0	0	4+4	1	1	0	0	mansaj
188	44802	175513	hard	fixed	0	1	0	0	0	1	IDC	hard	0	0	0	8+6	1	1	0	0	mansaj
189	145106	148313	hard	1	0	1	0	0	0	0	IDC	hard	0	0	0	3+3	1	1	0	0	mansaj
190	114228	118913	hard	fixed	0	1	0	0	1	1	IDC	hard	0	0	0	6+6	1	1	0	0	mansaj
191	25244	26913	1	1	0	1	0	0	1	0	IDC	hard	0	0	0	5+5	1	1	0	0	mansaj
192	1755	15513	hard	1	0	0	0	0	0	1	IDC	hard	0	0	0	3+3	1	1	0	0	mansaj
193	28422	31813	hard	fixed	0	0	0	0	1	1	IDC	hard	0	0	0	1.5+1.5	1	0	0	0	mansaj
194	28422	174913	hard	fixed	0	1	1	0	1	1	IDC	hard	0	0	0	10+10	1	1	1	0	Raktaj
195	6883	5213	hard	fixed	0	1	2	0	1	1	IDC	hard	0	0	0	4+4	1	1	1	0	Raktaj
196	149151	152513	hard	1	0	1	0	0	0	0	IDC	hard	0	0	0	3+3	1	1	0	0	mansaj
197	44869	183713	hard	fixed	0	1	0	0	0	1	IDC	hard	0	0	0	4+4	1	1	0	0	mansaj
198	28422	50713	hard	fixed	0	1	1	0	1	1	IDC	hard	0	1	1	4+4	1	1	1	0	Raktaj
199	188117	78213	hard	fixed	0	1	0	0	0	1	fibrosarcoma	hard	1	0	1	10+10	1	1	0	0	mansaj
200	2040	78214	1	1	0	1	0	0	0	0	FA	firm	0	0	0	3+3	0	1	0	0	Kafaj