TO STUDY AARTVVAHA SRTOTODUSHTI AS A RISK FACTOR IN OVARIAN CARCINOMA

A DISSERTATION PRESENTED BY

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UNDER GUIDENCE OF

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IN PARTAIL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF

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TO

TILAK MAHARASHTRA VIDYAPEETH PUNE

2015

FORM 'A'

DECLARATION OF THE AUTHORSHIP

I hereby declare that the dissertation entitled 'To study Aartvvaha srtotodushti as a risk factor in Ovarian Carcinoma' completed and written by me has not previously formed the basis for the award of any degree or other similar title upon me of this or any other Vidyapeeth or examination body.

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CERTIFICATE

This is to certify that the dissertation entitled 'To study Aartvvaha srtotodushti as a risk factor in Ovarian Carcinoma' which is being submitted herewith for the award of the Master of Philosophy (M.Phil.) in 2015 of Tilak Maharashtra Vidyapeeth, Pune is the result of original research work completed by Dr. Mrs. Anita Chandrakant Redekar under my supervision and guidance. To the best of my knowledge and belief the work incorporated in this dissertation has not formed the basis for the award of any Degree or similar title of this or any other university or examining body upon her.

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Dr. Vineeta Deshmukh

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Date

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Vd. Anita Chandrakant Redekar

Research Scholar

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List of Abbreviations

Texts

च.सं	Charak Samhita	(चरक संहिता)
सु.स	Sushrut Samhita	(सुश्रुत संहिता)
अ.हृ	Ashtang Hrudaya	(अष्टांग हृदय)
अ.सं	Ashtang Sangraha	(अष्टांग संग्रह)
का.सं	Kashyap Samhita	(काश्यप संहिता)
भा.प्र	Bhav Prakash	(भाव प्रकाश)
यो.र	Yoga Ratnakar	(योग रत्नाकर)
मा.नि	Madhav Nidan	(माधव निदान)
रा.नि	Raj Nighantu	(राज निघण्टु)

Sections

सू.स्था	Sutrasthana	(सूत्र स्थान)
नि.स्था	Nidansthana	(निदान स्थान)
वि.स्था	Vimansthana	(विमानस्थान)
शा.स्था	Sharirsthana	(शारीर स्थान)
चि.स्था	Chikitsa Sthana	(चिकित्सा स्थान)

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Introduction

Cancer is defined as diseases in which cells divide abnormally with uncontrolled and are able to occupy other tissue. The circulatory system of body act as a transport system for the cancer cells to spread to other systems of the body.

Type of Cancer

Cancer can be divided in following categories:-

- ✓ **Carcinoma** - cancer which has primary origin in the skin or covering tissue of internal organ. Carcinoma subdivided in adenocarcinoma, basal cell carcinoma, squamous cell carcinoma, and transitional cell carcinoma.
- ✓ **Sarcoma** - cancer which has primary origin in bone, cartilage, or other connective tissue.
- ✓ **Leukemia** - cancer which has primary origin in the bone marrow. Leukemia causes great numbers of atypical blood cells to be produced and enter the circulatory system of body.
- ✓ **Lymphoma and myeloma** - cancers which has primary origin in the immune system.
- ✓ **Central nervous system cancers** - cancers which has primary origin in the tissues of the central nervous system.

Path physiology of Cancer

The body is built up of various types of cells. The cell is the body's basic unit of the Life. These cells grow and divide in a control and regular pattern to produce more cells. They are needed to keep the body healthy. The old cells are replaced with new cells, when old cells are damaged or died.

Sometimes this controlled and regular process goes incorrect. The genetic material i.e. DNA damaged because of some reasons, that produces mutated abnormal cells which affect normal growth and division pattern of cells. This causes extra growth of cells which forms mass of the tissues called a tumor.

Ovarian carcinoma

Definition

Cancer which occurs in tissues of the ovary. Most ovarian cancers are either ovarian epithelial carcinoma which has primary origin in the cells on the surface of the ovary or malignant germ cell tumors which has primary origin in egg cells.

Prevalence [1,2]

Ovarian cancer has emerged as one of the most common malignancies affecting women in India. The present communication reports the trends in the incidence rate of ovarian cancer for Indian women. The data published in Cancer Incidence in Five continents for various Indian registries for different periods and / or published by the individual registries served as the source material. Mean annual percentage change (MAPC) in rates was computed using relative differences between two time periods. During the period 2001-06, The age – standardized incidence rates (ASR) for ovarian cancer – varied from 0.9 to 8.4 per 100,000 person years amongst various registries. The highest incidence was noted in Pune and Delhi registries.

The Age Specific Incidence rate (ASIR) for ovarian cancer revealed that the disease increases from 35 years of age and reaches a peak between the ages 55-64.

The trend analysis by period showed an increasing trend in the incidence rate of ovarian cancer in most of the registries, with a mean annual percentage increase in ASR ranged from 0.7% to 2.4%.

Analysis of data by ASIR revealed that the mean annual increase was higher for women in the middle and older age groups in most of the registries. Estimation of annual percent change (EAPC) in ovarian cancer by Poisson regression model through Maximum likelihood Estimation (MLE) for the data of 3 population-based cancer registries vs. Mumbai, Chennai and Bangalore for the period and incidence rate. Statistically significant increase in EAPC was noted with the crude rate (CR), AASR, and ASIR for several age-groups.

Selection of topic

Travarta yoni is a broad spectrum term used in Ayurvedic text, which includes organs like Bijgranthi (Ovaries), Garbhashaya (Uterus), Aatavvahini Dhamani (Fallopian tubes), Yoni (Vagina) And yonimukh (cervix).

Aacharya Sushrut has mentioned Tryavarta yoni as a site of Aartava. Thus Aartavvah srtotodushti is an important risk factor in pathogenesis (Samprapti) of ovarian carcinoma.

Data of 250 patients of ovarian carcinoma in our Integrated Cancer treatment and research Centre Wagholi, Pune illustrates Aartavvah srtotodushti as an evident risk factor in more than 50% of patients. Along with Aartavvah strotodusti, other factors like dietary factors, vihar, and mental stress, hereditary factors are also found.

Histological type of Ovarian carcinoma

A. Epithelial tumor (approximate frequency)
B. Germ cell tumor

C. Sex cord stromal tumor
D. Other tumor
    - Lipid cell tumor
    - Gonadoblastoma
    - Nonspecific soft tissue tumors
    - Unclassified.

Risk factors

- **Age.**
  A woman over 50 years has more risk to developed ovarian cancer. Other than these age group also has risk of ovarian carcinoma. Sixty-eight percent (68%) of women with ovarian cancer are older than 55, and 32% are younger than 55.
- **Family history.**
  Women having family history of ovarian carcinoma with a first-degree relative (mother, daughter, or sister) have about a three times higher risk of developing the disease. This risk increases when two or more first-degree relatives have been diagnosed with ovarian cancer.
- **Genetics.**
  About 10% to 15% of ovarian cancers occur because a genetic mutation (change) which has been passed down within a family. A mutation in the *BRCA1* or *BRCA2* gene is associated with an increased risk of ovarian cancer; there is also an increased risk of fallopian tube cancer and primary peritoneal (the membrane lining the abdomen) cancer, which are similar to ovarian cancer.
- **Breast cancer**.
  Having a diagnosis of breast cancer increases the risk for ovarian cancer, even when the *BRCA* genetic mutation test is negative.
- **Ethnicity.**
  Women of North American, Northern European, or Ashkenazi Jewish heritage have an increased risk of ovarian cancer.
- **Reproductive history.**
  Women who have unexplained infertility, have not taken birth control pills, or had their first child after the age of 30 have an increased risk of ovarian cancer. Also, women who started menstruation before age 12 and/or go through menopause later in life have an increased risk of ovarian cancer.
- **Hormones.**
  Women who have taken estrogen-only hormone replacement therapy (HRT) after menopause have a higher risk of ovarian cancer.
- **Obesity**.
  Recent studies have shown that women who were obese are 50% more likely to develop ovarian cancer.
- **Endometriosis.**
  This is when the inside lining of a woman's uterus grows outside of the uterus, affecting other nearby organs. This condition can cause several problems, but effective treatment is available. Researchers are continuing to study whether endometriosis is a risk factor for ovarian cancer.

Aim

To study Aartavavaha srtotodushti as a risk factor in Ovarian Carcinoma.

Objectives

To compare symptoms of Aartavavah srotodushti in ovarian carcinoma patients and non cancerous females.

REVIEW OF LITERATURE

Rasa ,Rakta,Mansa,Meda, Asthi, Majja and Shukra.These seven dhatus sustain the body. [1.1] Aartav is updhatu of Rasa dhatu.

Functions of Sapt Dhatu

The functions of seven dhatus is as follows : Rasa dhatu nourishes all the dhatus (elements) in the body, Rakta imparts jeevan(life),Mansa provides physical strength and support to the body,Meda oleates the body, Asthi builds a framework and supports the body,Majja fills the Asthi and Shukra is responsible for reproduction.[1.2]

Formation of Sapta Dhatu

Ahararasa is transformed in Rasa dhatu , from Rasa Rakta gets formed, then Mamsa (from Rakta), from Mamsa, Medas gets formed, then Asthi from Medas, from Asthi, Majja gets formed, then the Shukra (from Majja), from Sukra the Garbha (embryo) gets formed. [1.3]

Formation and nourishment of the dhatus and body is explained by commentators like Chakrapanidatta, with three Nyayas (anologies) viz, Ksheerdadhi nyaya, Kedarkulya nyaya and Khalekapot nyaya.

1) Ksheeradadhi nyaya –

   Just as the milk gets converted into curd, curd into butter and butter to ghee, the dhatus are transformed from Rasa dhatu into raktadhatu, rakta becomes mamsa and so on.This explanation has been rejected as it cannot explain the formation of sara and kitta.

2) Khale kapot nyaya –

   Just as pigeons from far and near come to the heap of corn kept at one place, pick up their requirement and go back to their dwellings,likewise each dhatu picks up its requirement from the pool of dhatu (in the pakvasaya). This analogy has been rejected as it does not provide for circulation of dhatu.

3) Kedarkulya nyaya –

Just as the vast field of crops, divided into small plots, gets supply of water by small channels, thus supplying nutrition to all the crops at their own places.The water of one plot flows in the next plot in small quantities, dhatu also flows through small channels (internal srotas), supplying nutrition to all the dhatus remaining in their own places. This anology answering to all the provisions (chiefly) the circulation of dhatu, existence of srotas contribution of moities from one dhatu to the other etc, has been accepted.

The presence of fire like agency in each tissue, the process of paka (cooking, digestion, transformation) the production of essence and waste in each dhatu, formation and development of dhatu one after the other, ensuring the growth of the body all these are known as Dhatu Parinama (tissue metabolism).

Definition of Dhatu

The 'Ahar' food which is composed of the five primordial elements, is of four types, contains six rasas, possesses either the two or the eight types of potencies, and has many properties when eaten, digested and , metabolized properly; its nutritious essence which is extremely fine, is called Ahararasa. [1.4]

Rasa Dhatu is termed as the fluid part or the metabolized liquefied content of the food which nourishes all the dhatus (elements) in the body and make them potent to carry out their respective functions.[1.5]

Nirukti of Ras Dhatu

Rasa is defined as the element which is constantly circulating throughout the body.
It is derived from the root verb Rasa gati gandhayo''.[1.6]

Properties of Ras Dhatu

The finest part of metabolized aahar(food) is called Rasa''. It is snigdha(unctuous), Shweta(white), swaccha(clear), sheeta(cold), Madhur(sweet) and chala(possessing movement).[1.7]

Rasa dhatu possesses fluidity , it imparts moisture, life sustenance, satiety to the body, hence is saumya(mild).[1.8]

Dhatu – Origin & Function

Rasa vaha srotas has their root in Hrudaya and ten Dhamanis (vesssels).[1.9]

Its (central) place is the heart; this travels through the twenty four vessels emerging from the heart, ten going upwards, ten downwards, and four obliquely. It nourishes, develops, maintains and keeps the entire body functioning constantly, the cause of these functions being inscrutable. [1.10]

Rasa dhatu circulates in the whole body, its moolsthana (main abode) is Hrudaya(Heart). Rasa dhatu is transported by Samana vayu towards the Hrudaya and then with the help of the same vayu is circulated in the whole body.[1.11]

Through the arteries Rasa dhatu circulates in the whole body and nourishes all the dhatus. It nourishes the body by its individual properties.[1.12]

Dhatu Gati

It circulates minutely in the entire body like the waves of sound, light and water.

Features of Decrease of the Ras Dhatu

Depletion of Rasa dhatu is characterized by precordial pain, palpitation, a sense of emptiness and thirst.[1.13]

In diminution of, the patient stirs about, does not tolerate loud sound, even on slight exertion his heart palpitates, aches and (even) fails. [1.14]

Features of Increase of the Ras Dhatu

Increase in Rasa dhatu produces the same symptoms as of increased kapha i.e debility of digestive activity, excess salivation, lassitude, feeling of heaviness, white colouration (of fecaes etc.), coldness, looseness of the body parts, dyspnoea, cough and excess of sleep. [1.15,1.16]

Rasvaha Strotas - Dushti Hetu –

Those who are eating heavy, cold, too unctuous and in excessive quantity and do excessive mental work suffer from the morbidity of Rasavaha srotas.[1.17]

Rasvaha Strotas Dushti Lakashan -

loss of desire for food, anorexia, distaste in mouth, loss of taste sensation, nausea. Heaviness, drowsiness, body ache, fever, feeling of darkness, paleness, obstruction in channels, impotency, malaise, leanness, loss of digestive power, untimely wrinkles and grey hair – these are the disorder due to morbid affection of dhatu. [1.18]

Updhatu of Rasa

According to Charakacharya and Sharangdharacharya, Updhatu of Rasa is Stanya and Aartav.[1.19]

Nourishment of Upadhatus

The nourishment of Dhatus and Updhatus takes place from Ahar rasa.The nourishment of upadhatus takes place in the following manner.From Rasa dhatu breast milk as well as menstrual blood in women is formed. Rakta nourishes tendons and blood vessels, Mamsa nourishes Vasa as well as six layers of skin and Medas nourishes the ligaments and joints. [1.20]

Mal

Excretion of fecaes and urine,kapha,pitta,Kha mala (the waste products of the external srotas) sweda (sweat), nakha (nails and roma (hair), fatty material of the eyes, skin and feaces; and the ojas (essence of dhatu) are the mala (wastes) of the dhatus respectively. [1.21, 1.22]

Rasa Sarata

In person who are twaksara (having constitutional essence of skin),the skin is unctuous, smooth, soft, clear with fine, sparse, deep rooted and delicate hairs and is lustrous. This essence indicates happiness, good fortune, power, enjoyment, intelligence, learning, health, cheerfulness and longevity. [1.23]

ARTAVA

Updhatu formed during Dhatuposhan. They get nourishment from Stahyidhatus. Saptdhatu have their own Updhatu which help to maintain the Body.

Artav is Upadhatu of Rasa Dhatu

निरुक्ति

ऋतौ भवम् - आर्तवम्, ऋतवे इदम् - आर्तवम् ।

स्त्रीधर्मः, पुष्पम्, आर्तवम्, रजः

Definition of Aartav

In the case of the women, the rakta (blood) gets collected inside the uterus and flows out for three days every month. This is known as Artava. [2.1]

Artavavah srotas and artavavahini dhamani, in females, are known to carry and discharge Artava. [2.2]

Time for conversion of Rakta into other tissues

The ahar rasa remains in each and every dhatu (tissue) for duration of three thousand and fifteen kalas. In this way it takes one month for the Rasa to get converted into the spermatic fluid (Shukra) in men or the menstrual blood in women.[2.3]

The menstrual blood, known as Rajas in the female, is derived from the same Rasa dhatu. This (menstrual flow) begins after the age of twelve years and ends at the age of fifty. [2.4]

Origin of Aartav

There are two Artava carrying dhamanis. Their roots are uterus and menstrual blood carrying dhamanis.Injury to it leads to sterility, dyspareunia and absence of menstruation. [2.5]

Process of menstruation (Rajodarshan)

The blood accumulated (inside the uterus) during the month, which is slightly black and of unusual smell, is brought into the dhamanis (arteries) during the rutu

(menstrual period), is expelled out by vayu (vata), through the orifice of the yoni (uterus and vaginal tract). [2.6]

In women, the rajas (menstrual blood) which are the product of Rasa (the first dhatu), flows out of the body for three days, every month, after the age of twelve years and undergoes diminution by the age of fifty years. [2.7]

Characteristics of Shuddha Aartav

According to Sushrut Sharir Sthan, (2/17), menstrual fluid which is either like rabbit's blood or like liquid shellac and does not discolor the clothes is regarded as normal.[2.8]

The menstrual blood is fiery because the product of conception is both agneya and saumya.

Shukra is saumya and artava is agneya.[2.9]

According to Charak Samhita, Chikitsa Sthan (3/225 – 226), Menstrual discharge should be taken as normal which comes forth monthly without sliminess, burning sensation, pain, stays for five days and in quantity is neither too much not too little.[2.10]

In colour, normal menstrual blood should be similar to gunja fruit (seed),red lotus flower, lac juice and indragopaka (red insect).

According to Ashtang Sangrah, Shahrir Sthan (1/10), Artava (Mentrual fluid) resembles the blood of the rabbit or a solution of lac in colour; the cloth stained with it does not retain the stain when washed. Such artava is said to be pure. [2.11]

According to Ashtang Hruday, Shaharir Sthan (1/17), Artava (Mentrual blood) which resembles the juice of lac or the blood of rabbit and which does not stain the cloth after washing. [2.12]

Quantity of Aartav

Aartav is 4 anjali in quantity.[2.13]

Diminution of Aartav

Upon the diminution of the female reproduction element delayed and scanty menstruation and /or dysmenorrhea. [2.14]

Increase of Aartav

If Artava is produced in excess there is bodyache, excessive menstrual flow and weakness. [2.15]

SHARIR RACHANA OF GARBHASHAYA

Strotas –

There are two Artava carrying dhamanies. Their roots are uterus and menstrual blood carrying dhamanis. [3.1]

Ashay

In females the eighth aashaya is called the uterus (Garbhasaya). Other seven Aashaya are – Vatashaya, Pittasaya, Slesmasaya, Raktasaya, Aamasaya, Pakvasaya, Mutrashaya. [3.2]

Strotas –

In females there are three additional opening viz, two in the breasts and one lower down for the flow of Aartava (menses). [3.3]

Peshi –

Women have twenty more muscles.[3.4]

Twenty more in women, ten are in the breasts and their development occurs after puberty; ten in the vagina, out of them two are located inside, two round ones at its mouth and three in the passage of the uterus.[3.5]

Four muscles are found in the genital tract out of which two spread inside and two being circular spread outside at its mouth. Three muscles are situated at the opening of the uterus and three more muscles are meant to bring together the sperm and ovum. [3.6]

The muscles which have been enumerated previously in relation to the penis and the scrotum in the males cover the ovaries in the females. [3.7]

Dhamani –

There are ten dhamanis which goes downward. These dhamanis perform the functions of downward movement of vata, urine, faeces, seminal fluid and menstrual blood, etc.

Two dhamanis carry food to the intestines, two carry water, two going to the urinary bladder carry urine, two are meant for the production and carriage of seminal fluid and two are for its ejaculation. In females, these are known to carry and discharge Aartava.[3.8]

Two Dhamanis carry the semen and two eliminate it (out); the same way in women they carry the Artava (menstrual fluid) and eliminate it. [3.9]

Stahn –

The uterus is situated between the gall bladder and the intestines. [3.10, 3.11]

In females, the uterus is situated very near the urinary bladder posterior. [3.12]

Swarup –

The genital tract is like the inner portion of a conch shell and has three circular folds; in the third (upper most) fold lays the uterus (bed of the foetus).

The wise people should know the shape and appearance of the uterus as that of the mouth of the ROHITA fish. [3.13]

Vagina resembles the interior of the conch shell, with three spirals; in the third spiral lies the foetal bed (fundus of the uterus) in between Pittashaya and Pakvashaya (colon), in it are found three muscles which facilitate entry of (passage for) semen and menstrual flow. [3.14]

LITERATURE REVIEW OF ARBUDA -

i) Literature review from ancient Sanskrit literature & Ayurvedic Samhitas

Historical Review

- **Vedic Period –**

The disease was even prevalent during the Vedic period "The story of acceptance of Matsyagandha – reveals that King Shantanu was afflicted with a type of Cancer Pundrika Arbuda)

In Rugveda, it has been mentioned that arbuda is just like a danava & is destroyed by Indra. Rugved tikakar Sayan says that arbuda is ambu (water) to destroy it use Agni (agnikarma).

References from Atharvaveda

In the ancient classics, Arbuda has not mentioned directly but the diseases like Apachi, Gulma, Granthi & Gandamala which resembles the clinical features of Arbuda have been mentioned.

- Just as the physician treat the diseases like Gandamala (Cervical lymphadenopathy) by the rays of the sun & moon along with medicines, in same way human being by acquiring knowledge destroy the innocence.[33]
- Just as good physician treat the diseases like Gandamala (Cervical lymphadenopathy), in the same way human being should overcome his drawbacks. [34]
- Just as Gandamalas (Cervical lymphadenopathy) become dry or green some times, in a same way bad feelings become weak & strong sometimes.[35]
- Atharvaveda mentioned some charm for curing tumours called Gayanya.

<u>Vyutpatti -</u>

अर्बुद नपुसक । अर्ब (र्बु) विच् तस्मै उदेति उद् - इण् - ड ।

"Arbuda" is constituted of the root word "**Arba "** and the verb "**Udeti"**

The meaning of **"Arba"**is to kill, to hurt & the meaning of "**Udeti"** is to elevate, to rise.[36]

<u>Nirukti</u> –

1) Mansapindakara Rogabhede
2) Tatsankhyateshu
3) Dashakotisankhya
4) Parvatbhede
5) Asurabhede
6) Kadrabhede Sarpabhede
7) Megha
8) Mansapindabhide

Adhishthana –

The adhishthana or site of Arbuda is Rohini which is the sixth layer of skin (Proliferating layer) & the thickness of this layer is equal to the thickness of Vrihi. Rohini is the seat of Granthi, Apachi, Arbuda, Shlipada & Galganda diseases.[37]

Definition –

- **Acharya Sushrut -**Vata, Pitta Kapha having got aggravated in any part of the body and afflicting the Mamsa dhatu, produce a circular, fixed, slightly painful, big, broad based slow growing non-suppurating and dense elevation (swelling) of mamsa.
- Vata, Pitta Kapha having got aggravated in any part of the body and afflicting the
- Mamsa dhatu, produces a circular, fixed, slightly painful, big, broad based slow growing non-suppurating and dense elevation (swelling) of mamsa. The same is called as "arbuda" by the scholars.[1]
- **Acharya Charak –** No specific definition is mentioned in Charak Samhita. Acharya Charak described Arbuda as a complication of Vata & Rakta & similarity between Arbuda & Shotha.

  Arbuda is like elevation.[38]

  Commentrator Chakrapani says that Arbuda is like circular elevation.[39]
- **Acharya Vagbhat –** Arbuda is relatively bigger than Granthi
- Arbuda is bigger in size than Grathi.[40]

Nidan of Arbuda –

The term Nidan relates to both etiology and diagnosis of disease. The etiology helps in ascertaining 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 available with the texts, no specific etiology is mentioned. Charaka and Vagbhatt included this disease under the heading of Sopha Roga. Both these authors are unanimous in their opinion that the etiological factors, which are responsible for Shopha, are also responsible for Arbuda. They must have realized the relation between inflammation and neoplasia. Charaka has mentioned that the etiological factors, site, shape, Dosha and Dushya of Arbuda are the same as Granthi. Aacharya Sushruta while dealing with the Arbuda says that

causative factors and clinical features are same as of Granthi. Acharyas of Laghutrayee followed the same statement.

Purvarupa of Arbuda –

Symptoms which manifest themselves before the appearance at the disease are known as premonitory symptoms.None of the Aacharyas have described the Purvarupa (Premonitory Symptoms) of the disease Arbuda, but Acharya Vagbhatta mentioned that the swelling of Granthi, which is smaller in comparison to that of Arbuda, should be considered as Purvarupa of Arubada.

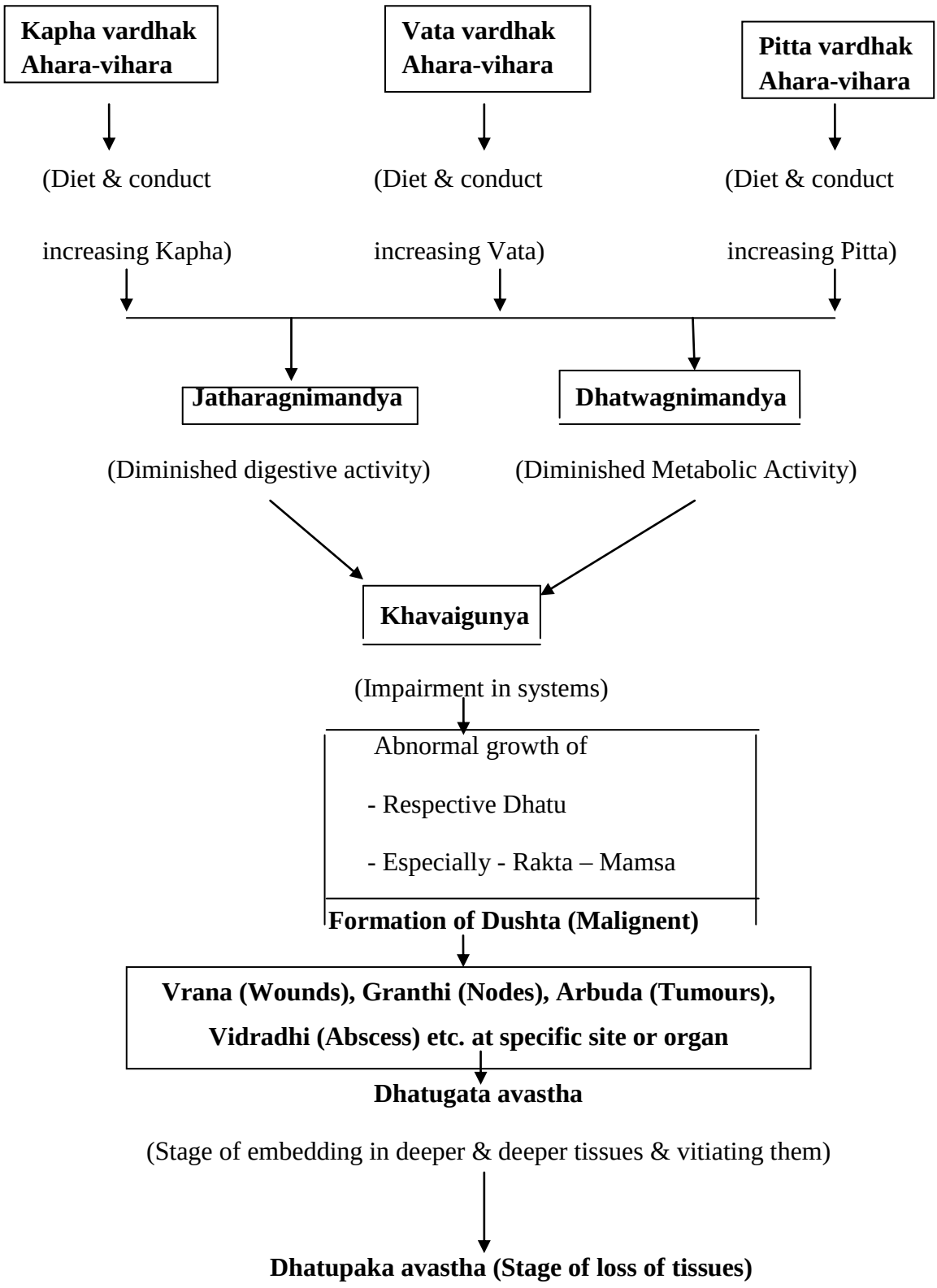
Rupa of Arbuda –

Detailed description of this variety is explained by different Aacharyas. Aacharya Sushruta states that clinical features of Vataja, Pittaja, Kaphaja and Medoja are always like that of Granthi, after which features of Rakta and Mamsarbuda are described. But Aacharya Sushruta also states in the same that Arubada is mainly due to the vitiation of the Tridosha, where kapha and meda have been considered in a predominate stage due to which it has been said Arbuda does not get suppurated. Increasing doshas, invade the muscles and blood and produce round (vrittam), immovable (sthiram), slightly painful (manda ruja), big (mahan), deep-seated (analpa moolam), slowly increasing (chira vruddhi), non-suppurating (apakam) tumors of muscular tissue are called arbuda.

Samprapti of Arbuda –

Vata, Pitta Kapha having got aggravated in any part of the body and afflicting the Mamsa dhatu, produce a circular, fixed, slightly painful, big, broad based slow growing non-suppurating and dense elevation (swelling) of mamsa. The same is called as “arbuda” by the scholars.

❖ **Samprapti :-**


Kapha vardhak Ahara-vihara
Vata vardhak Ahara-vihara
Pitta vardhak Ahara-vihara
(Diet & conduct increasing Kapha)
(Diet & conduct increasing Vata)
(Diet & conduct increasing Pitta)
Jatharagnimandya
Dhatwagnimandya
(Diminished digestive activity)
(Diminished Metabolic Activity)
Khavaigunya
(Impairment in systems)
Abnormal growth of
- Respective Dhatu
- Especially - Rakta – Mamsa
Formation of Dushta (Malignent)
Vrana (Wounds), Granthi (Nodes), Arbuda (Tumours), Vidradhi (Abscess) etc. at specific site or organ
Dhatugata avastha
(Stage of embedding in deeper & deeper tissues & vitiating them)
Dhatupaka avastha (Stage of loss of tissues)

- **Arbuda - Rogamarga :-**

Arbuda resides in Bahya Roga marg.[41]

- **Types of Arbuda[42] :-**

1) **Vataj Arbuda –**

   Vataj arbuda produces a feeling of stretching, pain, prickling as if being thrown & also cutting & tearing pains. It is black & hard & is like a bladder distended with air & when bursts discharges serous fluid. [43]

2) **Pittaj Arbuda** –

   Pittaj arbuda produces severe sensation of burning, fuming, sucking, throbbing & as if being burned to ashes. It is red or yellow in color & when burst discharges hot & excessive amount of blood. [44]

3) **Kaphaj Arbuda** –

   Kaphaj arbuda produces a cold swelling without any discoloration associated with mild pain & excessive itching having the consistency of a stone. It increases slowly & when burst, white & thick pus is discharged. [45]

4) **Raktarbuda** –

   The vitiated Doshas compressing Rudhira (Blood) & contracting the Sira (Vessels) without undergoing suppuration & along with the discharge make the muscle lumps prominent. This is studded with fleshy buds & increases rapidly. This continuously discharges vitiated blood & is incurable & is known as Raktarbuda. Due to the complication of hemorrhage, the patient with this tumor becomes anaemic.[46]

5) Mamsarbuda –

   Due to fist blow or trauma etc. the muscles of the injured parts get vitiated & swollen. This is painless & smooth is of the same color as skin. It is non-suppurating, is like a stone & is fixed. The vitiation increases by the intake of non vegetarian food. This is Mamsarbuda. It is said to be incurable.[47]

6) **Medaj Arbuda –**

The Medaj arbuda increases or decreases according to increase or decrease of fat in the body. It is smooth, big in size & is associated with mild pain & excessive itching & when burst it discharges fat which is similar to oil cake & ghee. [48]

- **<u>Special Types of Arbuda :–</u>**

1) **Shonitarbuda –**

Acharya Vagbhat has described Shonitarbuda. Doshas getting aggravated vitiates the blood present inside the veins causing contractions, pain & ripening, produce a growth of (Tumour) muscle, studded with sprouts of muscle, bleeding constantly, the tumor develops fast & discharges vitiated blood in large quantities. [49]

2) **Sharkararbuda –**

Acharya Sushrut describes Sharkara arbuda in the Nidan Sthana (Shudraroga Adhyaya).

Muscles, Vessels, ligaments, Kapha, Meda dhatu & Vata dosha mixing together produces glandular swelling upon the bursting of which an excessive secretion similar to honey, ghee & fat is discharged; then increased Vata dosha atrophied the muscles produces concretions in the gland again. Bad odour, excessive excessive saddening, and sudden discharge of blood of various colors occurs from the vessels; i.e. known as "Sharkarabuda".[50]

- **<u>Sadhya – Asadhyata of Arbuda :-</u>**

<u>Asadhya Arbuda (Incurable tumours) –</u>

- Mamsarbuda
- Even out of those which are curable
  - Those which discharge
  - Those situated over the vital parts
  - Those situated over the Srotas
  - Those which become fixed becomes incurable.[51]

According to Vagbhat, Raktaja & Mamsaja arbuda are incurable & remaining arbudas are curable.[52]

- **Non – suppurative nature of Arbuda :-**

All tumours by nature do not undergo suppuration because of due to predominance of Kapha dosha & Meda dhatu & also because of the immobilization & knotting of doshas in them. [53]

Tumors do not undergo suppuration because predominance of Kapha dosha & Meda dhatu.[54]

- **Multiple Tumours :-**

When another tumor grows over the pre existing one is known as Adhyarbuda by the Oncologist. When two tumors grow simultaneously or one after the other is called as Dwiarbuda. & both these are incurable.[55]

- **Similarity between Arbuda & Cancer :-**

The signs & symptoms of Arbuda can be very well explained in modern terms-

- Gatra Pradeshe Quachita – Anywhere in the body
- Mamsam Abhipradushya – Predominantly it is a disease of Mansa i.e damage of muscular connective tissue & epithelial tissue.
- Vruttama Sthirama – Growth is round & stony hard.
- Manda Rujam – Pain is absent except at terminal stage.
- Mahantmoolam – Broad based, thus it is compared with a sign of scrab.
- Chira Vruddhi – It develops gradually. It is chronic.
- Apakam – Non suppuration in nature
- Mansopachaya – Formed by uncontrolled abnormal proliferation of tissues.
- Atyaghadhama – Very Deep Routed

ARTAVA DUSHTI

The menstrual fluid gets vitiated by the three doshas (vata, pitta and kapha) and the fourth shonita individually, in combination of two or by all of them combined together, resulting in sterility. Vitiated of the doshas in them should be inferred according to their characteristic colors and features. Out of theses, one which emits cadaveric smell, is clotted is like putrid pus, is scanty or has odour of urine or faeces is incurable and the rest are curable. [5.1]

Just as vitiated Shukra is incapable of producing the embryo, so also the vitiated Artava. The features and names of such vitiated Artava are as the former (sukra). Of these that which has a cadaveric smell, which has formed into pellets, that which resembles pus and that which is very scanty are difficult to treat Shukra or Artava which are having the smell of urine, fecaes or a cadaver, and formed into pellets and which resembles pus are impossible to be cured. [5.2]

These are designated as doshaja (vitiated by the dosas) when specific features of each dosa are found; [5.3]

- as Kunapa (having cadaveric smell) when vitiated by Rakta (blood);
- as Granthi (pellet like) when vitiated by Shlesma (kapha) and Vata together;
- as Puyabha (resembling) pus) when vitiated by Rakta (blood) and Pitta together;
- as Ksina (descreased) when vitiated by Mutra (vata) and Pitta together. All these are difficult (to purify);
- Those vitiated by all the three doshas together, those having features of urine and fecaes are impossible (to purify).

RAKTPRADAR

Definition

In the case of woman, the Rakt (blood), gets collected inside the uterus and flows out of three days every month. This is known as Artava (menstrual fliud). Its excess flow or flow apart from the regular period gets the name Asrgadara, Pradara and Raktayoni, respectively which are abnormalities. [5.4]

The menstrual blood which has characteristics opposite to those described above is profuse in quantity and flow at irregular periods is known as asrgdara.[5.5]

Aetiology

Incompatible diet, alcoholism, eating before the previous meal has been digested, indigestion, abortion / miscarriages, excessive sexual intercourse, covering long distances on vehicles or on foot, grief, and marked emaciation, lifting heavy weight, trauma and day seeping (are the etiological factors of menorrhagia).[5.6]

Types

Pradara (menorrhagia) is known to be of four types viz Kaphaja, pittaja, vataja and sannipataja.[5.7]

General features

All (four) types of menorrhagia are assoicted with bodyache and pain. [5.8]

Complication of excessive blood loss in menorrhagia

Weakness, giddiness, unconsciousness, feeling of intoxication, thirst, burning sensation, delirium, anaemia, drowsiness and vataja disorder occur due to excessive blood loss I menorrhagia.[5.9]

Kaphaj Menorrhagia

The discharge in Kaphaja menorrhagia is Ama, unctuous in appearance, pale and resembles rice washings. [5.10]

Pittaj Menorrhagia

In Pittaja menorrhagia the discharge is yellowish, bluish, and blackish or reddish, warm, associated with paittika type of pain and flows out repeatedly with force. [5.11]

Vataj Menorrhagia

In Vataja Menorrhagia the (menstrual) discharge is non – unctuous, reddish and forthy, comes out in small amounts, is associated with vatika type of pain and appears like meat washings. [5.12]

Sannipataj Menorrhagia

The (menstrual) discharge in sannipatika menorrhagia may resemble the color of honey, ghruta or haritala, appears like bone marrow and the smell of a dead body. [5.13]

NASHTARTAV

The menstrual is destroyed due to the obstruction created by doshas in the passage. [5.14]

Yonikand

Aetiopathogenesis

When vata and other dosas get vitiated due to excessive day sleeping, anger, physical exercise and sexual intercourse, as well as by injuries due to nail scratching or teeth bite they produce a kanda (tuberous swelling) with pus and blood in yoni; it resembles a nikucha fruit in appearance.[5.15]

Clinical Features of different types of Yonikanda 63,3,4

Vatika Yonikanda

Vatika Yonikanda is recognized by its dry, discolored and cracked appearance [5.16]

Pittaja Yonikanda

In case of a Pittaja Yonikanda, there is a burning sensation, redness and fever.[5.17]

Kaphaja Yonikanda

Kaphaja Yonikanda has the appearance of Nilapushpa and is associated with itching.[5.18]

Sannipatika Yonikanda

Sannipatika Yonikanda is known to have the features (of all the three types mentioned above) due to all the dosas.[5.19]

Yonivyapad

According to Charak Samhita

Etiology

Twenty types of the genital disorders of women are mentioned in enumeration of diseases. They arise in the women due to their faulty practices, deranged menstrual flow, defect in ovum and fate.[6.1]

Types

1. Vatala Yoni

In the women of Vatika constitution following vata aggravating diet and practices, vata gets aggravated and having been located in genital tract produces piercing and other types of pain, stiffness, feeling of crawling of ants, hardness and numbness of vagina, exhaustion and other vatika disorders. Due to vata, her menstrual discharge appears with sound, painful, frothy, thin and rough. [6.2]

2. Pittala Yoni

Due to (excessive use of) pungent, sour, salty, alkaline things etc. paittika type of genital disorders arise. Because of affection with pitta, the genital tract suffers from burning sensation, inflammation, fever and heat; with menstrual flow as blue, yellow or black and with excessive, hot discharge having cadaverous smell. [6.3]

3. Kaphaja Yoni

If kapha aggravated by channel – blocking things affect the genital tract of women, it makes the track as slimy, cold, itching, with mild pain and pale and menstrual flow as pale and slimy. [6.4]

4. Tridoshaja Yoni

When a woman uses excessively all these, all the three doshas located in genital tract and uterus produce their symptoms there. Thus the tract suffers from burning sensation and pain has discharge as white and slimy. [6.5]

5. Raktaja Yoni

If menstrual blood of women is affected by pitta due to (excessive intake of substances) aggravating rakta – pitta , it overflows from the genital tract even after conception. This is known as Raktaja Yoni. [6.6]

6. Arajaskani

If pitta located in genital tract and uterus affects blood, it is known as Arajaska which produces leanness and abnormal complexion. [6.7]

7. Acharana Yoni

Any infection in the genital tract due to non washing cause itching therein, this is known as Acharana by which the women has frequent desires for men. [6.8]

8. Aticharana Yoni

Due to excessive coitus, (the aggravated) vayu causes swelling, numbness and pain in women's genital tract. This is known as Aticharana.[6.9]

9. Prakcharana Yoni

Due to sexual intercourse in a too premature women vayu affects the genital tract producing pain in back, waist, thighs and groins. This is Prakacharana. [6.10]

10. Upapluta Yoni

If a pregnant woman takes Kapha – aggravating things, excessively and suppresses the urges of vomiting and respiration, the vitiated vayu carrying kapha to the genital tract affects the same. Because of this it discharges pale fluid with piercing pain or white mucus while having been invaded by the disorders of kapha and vata. This is known as Upapluta. [6.11]

11. Paripluta Yoni

When woman of pittika constitution suppresses the urges of sneezing and eructation during coitus, vayu combined with pitta affects the genital tract of the woman. By this the genital tract becomes swollen, tender, painful and having menstrual flow as blue and yellow. The women suffers from pain in pelvis, groins and back. This is paripluta.[6.12]

12. Udavartini Yoni

If natural urges are suppressed, vayu takes upward course in the genital tract due to which the woman suffering from pain discharges the menstrual blood with difficulty because of its having taken upward tendency. After discharge of the menstrual blood, she feels relief instantly. Because of the upward course of menstrual blood it is known by the wise as udavartini.[6.13]

13. Karnini Yoni

Woman in labour who strains untimely (during labour) vayu gets obstructed by foetus and having combined with kapha and rakta produces prolapsed which obstructs the passage of menstrual flow. This is known as karnini. [6.14]

14. Putraghni Yoni

Due to roughness if vayu because of morbidity in shonita (menstruation or ovum) destroys the foetus formed again and again it is known as putraghni. [6.15]

15. Antarmukhi Yoni

If women being over saturated with food takes to sexual intercourse and also lies in faulty postures, vayu pressed with food and having been located in genital tract curves the opening of vagina along with vatika distress in bones and muscles. By this vagina becomes exceedingly painful and intolerant to coitus. This is known as antarmukhi.[6.16]

16. Suchimukhi Yoni

It is genetic deformity during foetal life if there is vitiation of Vata due to improper diet and lifestyle of mother , the vitiated doshas affects the genital tyract and causes abnormality in the genital opening known as suchi mukhi. [6.17]

17. Shuska Yoni

During coitus if one suppresses the natural urges, the vitiated vayu causes painful retention of fecaes and urine and dryness of vaginal opening. This is known as shuska yoni.[6.18]

18. Vamini Yoni

Semen having entered into the uterus comes out after six or seven days with or without pain. This is known as vamini.[6.19]

19. Shandhi Yoni

Due to genetic defect, if in female foetus vayu destroys the ovary, the woman has aversion to male and is devoid of breasts. This is known as shandhi and is incurable. [6.20]

20. Mahayoni

While coitus if the bed is uncomfortable or takes abnormal postures in coitus, the vitiated vayu dilates the opening of uterus and the genital tract. By this the tract becomes closed. If menses are there they are painful and with rough and frothy menstrual discharge. There is also growth of flesh with pain in joints and groin. This is known as mahayoni.[6.21]

According to Sushrut Samhita

Etiology

If withered, weak or immature women indulges in excessive cohabitation with a man possessing a large penis, vayu gets vitiated in her and after getting localized in the female genital organs gives rise to gynecological disorders, whose signs and symptoms vary according to the three doshas involved.

Twenty gynecological disorders grouped together are caused by the use of unwholesome diet and unsalutary activities, abnormalities of artava, bijdoshaand heavenly disposition. [6.22]

Types

The disorders caused by vata are –[6.23]

1. Udavarta (Dysmenorrhoea)
2. Vandhya (Amenorrhea)
3. Vipluta (Vaginismus)
4. Paripluta (Dyspareunia)
5. Vatala (Dryness of the vagina)

The disorders caused by Pitta are

1. Rudhiraksara (menorrhagia and Metrorrhagia)
2. Vamiini (failure of nidation of the fertilized ovum)
3. Sramsini (? Prolapse Uterus)
4. Putraghni (habitual abortion)
5. Pittala (Acute inflammation of the female genitalia)

The disorders caused by Kapha are

1. Atynanda (Sexual insatiability)
2. Karnini (Cervical growth)
3. Acarana(Sexually weaker than the female partner)
4. Aticarana (A type of sterility)
5. Slesmala (vaginitis)

The disorders caused by vitiation of all the three dosas together are

1. Sandi (? Congenital hypoactivity of pituitary gonadotropins)
2. Phalini
3. Mahati (procidentia)
4. Suchivaktra (Pinhole cervical os)
5. Sarvaja (Mixed lesions)

Vataj Yoni Vyapad

Udavarta (dysmenorrheal) is that disease in which menstruation is painful and frothy.

Vandhya (Amenorrhea) is that disease in which menarche has not occurred.

Vipluta (Vaginismus) is that disorder in which pain is constantly present (in the vagina).

Paripluta(Dyspareunia) is that disorder in which there is severe pain during coitus.

Vatala (dryness of the vagina) is that disease in which the vagina is rough, rigid and is associated with spasmodic and pricking types of pain.

Nature of pain in the first four above mentioned disease is also of vatika type.[6.24]

Pittaj yoni Vyapad

Lohitaksara (menorrhagia and metrorrhagia) is that disorder in which there is an excessive menstruation along with a burning sensation.

Vamini (failure of nidation of the fertilized ovum) is that disorder in which the sperm along with the ovum (? Fertilized) are extruded with the (vitiated) Vayu.

Prasramsini (? Prolapsed uterus) is that disease in which there is a displacement (of the uterus) due to straining and labour is difficult.

Putraghni (habitual abortion) is that disease in which the product of conception is repeatedly aborted due to bleeding.

Pittalayoni (acute inflammation of the female genitalia) is that disease in which there is an excessive burning sensation and inflammation in the female genitalia along with fever.

Other features of pitta involvement are also found in the first four disease (of this group).[6.25]

Kaphaj Yoni Vyapad

Atyananda (Sexual insatiability) is that condition in which sexual satisfaction is never obtained in spite of (prolonged or repeated) coitus.

Karnini (Cervical growth) is that condition in which there is a growth in the cervix caused by Kapha and Shonita.

Acharana (Sexually weaker than the male partner) is that condition in which during coitus the woman discharges earlier than the man.

Aticharana (a type of sterility) is that in which in spite of excessive coitus there is no conception.

Shlesmala (Vaginitis) is that in which the vagina is unctuous, excessively cold, and is associated with an itching sensation.

Other features of Shlesmala involvement are also found in the four disease (of the group).[6.26]

Sannipatik Yoni Vyapad

Shandi is that condition in which there is neither menstruation nor breast development and vaginal canal is (felt to be) rough during coitus.

Phalini disease is caused by coitus of a young girl with a man having gigantic development 9of the penis).

Mahayoni (procidentia) is that disease in which there is an excessive dilatation (of the vaginal canal).

Suchivaktra (pin hole cervical os) is that condition in which the cervical opening is excessively narrow.

Sarvaja is that condition in which the aetipathogenesis and the clinical features of all the three vitiated dosas are present.

Other features of involvement of all the Doshas also are present in the first four diseases of this group.

The five types of gynecological disorders caused by vitiation of all the doshas together are incurable. [6.27]

According to Ashtang Sangrah

Etiology

Twenty yonivyapat (disorder of the vagina and uterus) due to indulgence in unhealthy foods, lying in improper posture, too much indulgence in sexual intercourse, disorders of menstruation, use of unnatural things for copulation (artificial penis etc) disorders of the seed (responsible for the vagina and daiva (divine will / providence).[6.28]

1. Vatiki Yoni vyapad

   Vata getting aggravated in the vagina gives rise to pain, pricking pain loss of tactile sensation, feeling as though ants are crawling, stiffness, roughness and sound (of movement of air), flow of frothy, slightly red or blackish, thin, scanty fluid, downward displacement of the vagina, pain in the groin and flanks, abdominal tumor and such other diseases of its own (vata0 origin, slowly. This is Vatiki yonivyapat.[6.29]

2. Aticharana

   This disorder becomes known as aticharana when swelling also developd due to indulgence in excess of copulation.[6.30]

3. Prakcharana.

   Copulation with a very young girl leads to aggravation of vata which in turn, gives rise to pain in the back, forelegs, thighs and groins of the girl and also vitiates her vagina (producing symptoms of vata aggravation). This is known as Prakcharana.[6.31]

4. Udavarta .

   Vata getting aggravated by suppression of urges (of urine, faces, flatus etc) vitiates the vagina and leads to discharge of forthy menstrual fluid with difficulty due to upward displacement of the vagina. This disease is called Udavarta .[6.32]

5. Jataghni.

   When Anila (Vata) getting increased and causing roughness in the vagina and the uterus also) causes the death of every son (embryo) that is formed, due to vitiation of the artava & ovum). This is known as Jataghni.[6.33]

6. Antarmukhi.

   In the women who has eaten too much of food, adopts an improper posture during copulation, Vata getting aggravated by the pressure of the food, makes the bone and muscle tissues of the vagina to become greatly painful, and the vaginal passage curved. This is known as Antarmukhi.[6.34]

7. Suchimukhi.

   In the woman who always indulges in foods which increase vata, produces its aggravation which makes the vaginal passage very narrow, this is known as Suchimukhi.[6.35]

8. SuskakhyaYoni Vyapat.

   By suppression of urges (of urine etc) during the menstrual period vata getting aggravated causes obstruction to (free movement of) fecaes and urine, dryness of the vagina accompanied with pain. This is called SuskakhyaYoni Vyapat.[6.36]

9. Vamini.

   Vata getting aggravated expels the shukra (semen) from the uterus in six or seven days (after conception) either with pain or without pain. This disease is known as vamini.[6.37]

10. Shandha

    The seed producing the uterus being abnormal, vata getting aggravated and vitiated the vagina. Both together lead to production of a female who hates males, has no breasts and remains barren. This disease is known as Shand and is incurable.[6.38]

11. Mahayoni.

    Maruta (vata) getting aggravated , blocks the orifice of the vagina and uterus , makes them dilated / expanded, drooping down, accompanied with pains similar to Vatiki yonivyapat and the muscles of the vagina pushed up (grown in size) and highly painful. This disease is known as mahayoni.[6.39]

12. Paitttiki yonivyapat.

    Pitta undergoing increase by causes exciting it, gets localized in the vagina giving rise to burning sensation, ulceration, local heat, bad smell, fever and discharge of menstrual fluid which is very warm, large in quantity, of cadaveric, smell, blue, yellow or black in color. This disease is called paitttiki yonivyapat.[6.40]

13. Raktayoni.

    When large quantity of blood is coming out, it is known as Raktayoni.[6.41]

14. Shlaishmiki ynivyapat.

    Kapha getting increased by indulgence with moisture producing foods becomes localized in the vagina and gives rise to loss of apetite, coldness and itching, yellowish white and slimy discharge. This disease is Shlaishmiki yonivyapat.[6.42]

15. Lohitaksaya.

    Aggravation of vata and pitta together makes for decrease or loss of menstrual fluid, accompanied with burning sensation, emaciation and discoloration in the vagina. This disease is called Lohitaksaya.[6.43]

16. Paripluta.

    The woman of pitta predominant constitution, habituated to suppression of urges of sneeze and belching during sexual intercourse, then her vagina becomes vitiated by aggravation of Vata, combined with pitta, produces swelling, intolerance to touch, pain, exudes blue, yellow colored blood, feeling of heaviness of area of urinary bladder and lower abdomen, diarrhea, anorexia, pricking pain in the pelvis and groins and fever. This disease is known as paripluta.[6.44]

17. Upapluta yoni.

    This having the features of increase of vata and kapha, exudes blood which is white and slimy, this is Upapluta yoni.[6.45]

18. Vipluta

    Vipluta is due to , not washing (cleaning the vagina), gives rise to growth (bacteria etc) and itching because of itching the women desires copulation often.6.46

19. Karnini.

    By initiating the urges (forcefully) at premature times, vayu (vata) getting aggravated associated with Shleshma (kapha) and Rakt (blood) produces a

Karnika (elevated mass of muscles in the vagina, blocking the passage of the menstrual fluid. This disease is called Karnini.[6.47]

20. Sannipataki yonivyapat

From aggravation of all the three dosas localized in the vagina and the uterus, there develops the disease Sannipataki yonivyapat which is accompanied with specific symptoms of all the doshas (presenting simultaneously). [6.48]

List of Yoni Vyapad

Charak	**Sushrut**	**Ashtang Sangrah**	**Ashtang Hruday**	**Yogratnakar**	**Bhav Prakash**	**Sharangdhar**
Ch. Chi. 30	Su. Utt. 38	S. Utt. 38	Shu. Utt. 33			
Vatala Yoni	Vatala	Vatiki		Vatala		Vatiki
Pittala Yoni	Pittala	Paittiki		Pittala		Paittiki
Kaphaja Yoni	Slesmala	Shaishmiki		Slesmala		Shaishmiki
Tridoshaja Yoni	Sarvaja	Sannipatiki		Sarvaja		Sannipatiki
Raktaja Yoni	-	Rakta		-		Rakta
Arajaska Yoni	Rudhiraksara	Lohitakshaya		Rudhiraksara		Lohitakshaya
Acharana Yoni	-	Vipluata		-		-
Aticharana Yoni	Aticarana	Aticharana		Aticarana		Aticharana
Prakcharana Yoni	-	Prakcharana		-		Prakcharana
Upapluta Yoni	-	Upapluata		-		Upapluata
Paripluta Yoni	Paripluta	Paripluta		Paripluta		-
Udartini Yoni	udavarta	Udavarta		udavarta		-
Karnini Yoni	Karnini	Karnini		Karnini		Karnini
Putraghni Yoni	Putraghni	Jataghni		Putraghni		Jataghni
Antarmukhi Yoni	-	Antarmukhi		-		Antarmukhi
Suchi mukhi	Suchivaktra	Suchimukhi		Suchivaktra		Suchimukhi
Suska yoni		Shushka				Shushka
Vamini yoni	Vamiini	Vamini		Vamiini		Vamini
Shandhi Yoni	Sandi	Shand		Sandi		-

Maha Yoni	-	Mahayoni	-	Mahayoni
-	Vandhya	-	Vandhya	-
-	Vipluta	-	Vipluta	Vipluata
-	Sramsini	-	Sramsini	Paripluta
-	Atynanda	-	Atynanda	-
-	Acarana	-	-	Nanda
-	Phalini	-	-	-
-	Mahati	-	Mahati	Khandita
-	-	-	Charananadpurvika	-
-	-	-	Ati	-
-	-	-	Andini	-

Modern Aspect of Aartavvah strotas

ANATOMY

THA OVARIES

The ovaries are the female gonads. The female gametes, called ova, are formed in them.

Each ovary lies in the ovarian fossa on the lateral pelvic wall. The ovarian fossa is bounded:

(a) Anteriorly by the obliterated umbilical artery; and

(b) Posteriorly by the ureter and the internal iliac artery.

The position of the ovary is variable. In nulliparous women, its long axis is nearly vertical, so that the ovary is usually described as having an upper pole points laterally and the lower pole medially.

External features

In young girls, before the onset of ovulation, the ovaries have a smooth surface and are grayish pink in color. After puberty, the surface becomes uneven and the color changes from pink to grey.

Each ovary has:

(A) Two poles or extremities, the upper or tubal pole, and the lower or uterine pole.

(B) Two border, the anterior or mesovarian border , and the posteriorly or free border and

(C) Two surfaces, lateral and medial.

Relations

A. Peritoneal relations

The ovary is almost entirely covered with peritoneum, except along the mesovarian (anterior) border where the two layers of the covering peritoneum are reflected on to the posterior layer of the broad ligament of the uterus. The ovary is connected to the posterior layer of the broad ligament by a short fold of peritoneum, called the mesovarium. The squamous epithelium of the mesovarium is continuous with the cubical epithelium of the ovary. The mesovarium transmits the vessels and nerves to and from the ovary.

The lateral part of the broad ligament of the uterus, extending from the infundibulum of the uterine tube and the upper pole of the ovary, to the external iliac vessles, forms a distinct fold known as the suspensory ligament of the ovary (infundibulo-pelvic ligament). It contains the ovarian vessels and nerves.

B. Visceral Relations

1. Upper or tubal Pole

   It is broader than the lower pole and is related to the uterine tube and the external iliac vein. The Rt. ovary may be related to the appendix if the latter is pelvic in position. The ovarian fimbria and the suspensory ligament of the ovary are attended to the upper pole of the ovary.

2. Lower or uterine Pole

   It is narrower than the upper pole and is related to the pelvic floor. It is connected, by the ligament of the ovary, to the lateral angle of the uterus, postero inferior to the attachment of the uterine tube. The ligament lies between the two layers of the broad ligament of the uterus and contains some smooth muscle fibers.

3. Anterior or Mesovarian border

   It is straight and is related to the uterine tube and the obliterated umbilical artery. It is attached to the back of the broad ligament of the uterus by the mesovarium, and forms the hilus of the ovary.

4. Posterior or free border

   It is convex and is related to the uterine tube and the ureter.

5. Lateral surface

   It is related to the ovarian fossa which is lined parietal peritoneum. This peritoneum separates the ovary from the obturator vessels and nerve.

6. Medial surface

   It is largely covered by the uterine tube, the peritoneal recess between the mesosalpinx and this surface is known as the ovarian bursa.

Arterial Supply

1. The ovarian artery arises from the abdominal aorta just below the renal artery. It descends over the posterior abdominal wall and enters the suspensory ligament of the ovary. It sends branches to the ovary through the mesovarium, and continues medially through the broad ligament of the uterus to anastomosis with the uterine artery. In addition to ovary, the ovarian artery also supplies the uterine tube, the side of the uterus and the ureter.
2. The uterine artery gives some branches which reach the ovary through the mesovarium.

Venous Drainage

The veins emerges at the hilus and form a pampiniform plexus around the artery. The plexus condenses into a single ovarian vein near the pelvic inlet. This vein ascends on the posterior abdominal wall and drains into the inferior vena cava on the Rt side and into the Lt renal vein on the Lt side.

Lymphatic Drainage

The lymphatic’s from the ovary communicate with the lymphatic’s from the ovary communicate with the lymphatic’s from the uterine tube and fundus of the uterus. They ascend along the ovarian vessels to drain into the lateral aortic and pre aortic nodes.

Nerve Supply

The ovarian plexus, derived from the renal, aortic and hypogastric plexuses, accompanies the ovarian artery. It contains both sympathetic nerves (T10,11) are afferent (for pain) as well as efferent (vasomotor). Parasympathetic nerves (S2,3,4) are vasodilator.

Histology

There is no organ in the female body which shows so much histological variation at different phases of life. In childhood, puberty, pregnancy and menopause, the ovarian structure shows characteristic variation. The following is a brief description of a normal ovary. Ovary consists of the following six elements.

1. Germinal epithelium -

It is the outermost covering by a single layer of cuboidal cells, continuous with the peritoneum, derived from the coelomic epihelium. It is the parent tissue from which the primitive Grafian follicles develop.

2. Tunica albuginia

Thin layer of eosinophilic collagenous connective tissue of low cellularity under germinal epihelium.

3. Stroma

It is a connective tissue network continous with the tunica albuginia and containing spindle shaped cells with a few involuntary muscle fibers. It supports the essential ovarian tissues and carries blood vessels, lymphatic's and nerves.

4. Vesicular follicles or Graafian follicles

Small islands if cells in various stages of development and scattered mostly at the peripheral part of the ovary. The immature ones are called the primordial follicles. The central cell is the ovum. The remaining cells surround the ovum in a single layer forming a sort of capsule.

Function - It forms the female gamete (ovum) and secrets oestradiol.

5. Corpus luteum

When the graffian follicle ruptures, corpus luteum develops on the remnants of the ruptured follicle.

Function - It is a temporary gland secreting progesterone.

6. Interstitial cells

Groups of polyhedral cells containing lipid granules representating stored active principle. They develop from the stroma cells or from the cells of the unruptured follicles. Probably they secrete oestrogens.

In infancy, the ovaries are made up of spindle shaped stroma cells. A cubical celled germinal epithelium and a large number of primordial follicles. The follicles do not matter, there is no ovulation and no corpus luteum. At puberty, the germinal epithelium contains flattened cells, a large number of maturing follicles - ruptured or unruptured - and corpora lutea of small size. During pregnancy, the characteristic additional features is the presence of a large corpus luteum. At menopause, the ovaries atrophy, become smaller in size, the follicles disappear and are replaced by fibrous scars. The interstitial cells degenerate and very little oestrogen is formed.

Function of ovary

From the above observations, the functions of ovaries may be summarized as follows

(1) Exocrine function - formation of mature ova.

(2) Endocrine function - secretion of four hormones

(a) oestrogen - secreted by the Graffian follicles (membranes granulosa or theca interna)

(b) progesterone - secreted by the corpus luteum

(c) androgen -

(d) relaxin

With the help of these four hormones, the ovary controls the whole reproductive life of the female. For instance, it is responsible for -

1. All the puberty changes, such as (a) growth and development of uterus, Fallopian tube, vagina (b) menstrual changes (c) appearance of secondary sexual characteristics.
2. Pregnancy and the changes associated with it, such as, embedding of ovum, development of placenta, further growth of mammary glands, etc.
3. Due to release of relaxin, it helps parturition.

MENSTRUATION

DEFINITION

Cyclical discharge of blood mucus and certain other substances from the uterus in the reproduction life of the females, at an average interval of 28dys (24 – 32 days) is called menstruation. It occurs every month from puberty to menopause.

It is absent (a) before puberty (b) during pregnancy (c) after menopause (45 – 55 yrs).

Duration – the flow lasts for 4 – 6 days without any appreciable pain.

Composition – it is made up of (a) blood (30 – 40 ml)(b) stripped of Endometrium, (c) mucous , (d) leucocytes, and (e) and unspecified ovum. The menstrual blood which comes out from the uterus clots promptly due to rapid formation of fibrin. If the blood remains in the uterus for some time fibrin is deposited on the Endometrium and as a result there is partial clotting. Intra uterine clots if remained for a longer period dissolves due to the action of plasmin.

During each cycle the uterine mucosa gradually hypertrophies. The whole purpose is to prepare a suitable bed for the reception and implantation of the fertilized ovum. If pregnancy takes place, the proliferation of the fertilized ovum. If pregnancy takes place, the proliferated mucosa becomes converted into placenta. If pregnancy does not take place, the hypertrophied mucosa breaks down and is discharged as menstruation. Menstruation, therefore, may be described as the funeral of the unfertilized ovum or as the weeping of the uterus for the lost ovum.

The endometrial changes during the whole menstrual cycle has been divided into four stages (1) the resting or postmenstrual phase, (2) the proliferative or reparative or oestrogenic phase (3) the gravid phase, and (40 the menstrual phase. The phases of menstruation and pregnancy.

The 1^{st} and 2^{nd} phases may be called follicular phase. They are due to the action of gradually increasing amounts of oestrogen. In the beginning of the cycle theca interna of the vesicular or Graafian follicle secretes oestrogen and mediated through the secretion of follicular fluid by the granulose, sensitise the follicle to FSH secreted by the anterior pituitary. FSH initiates the maturation of only one follicle (very seldom, two0, which has been primed by oestrogen. The secretion of oestrogen reaches maximum at the time of ovulation, and such high level of the hormone inhibits the secretion of FSH but stimulates the secretion of LH. Anterior pituitary begins to secrete LH and LTH probably in increasing amounts at this stage. LH acting on sensitized follicle causes ovulation and then together with LTH helps in the

development of corpus luteum. Progesterone secretion starts – causing the premenstrual changes – luteal phase. If pregnancy occurs, placental gonadotrophins stimulate further growth of corpus luteum. More progesterone is secreted and the Endometrium develops into a fully fledged placenta. But if fertilization does not take place, the high level of progesterone inhibits the secretion of LH and LTH. This causes involution of corpus luteum, falling progesterone secretion and dissolution of uterine Endometrium. Above sequence of events in the ovary and uterus has been presented schematically. The hypertrophied Endometrium breaks down and discharged as menstruation. These phases are briefly summarized below.

Phases and uterine changes	**Ovarian changes and excretion of ovarian hormones in the urine**	**Cause and Control**
1. Resting phase (foliicular phase) Duration – 1^{st} – 5^{th} day (about 1 week). Endometrium heals and becomes normal. Slow proliferative changes begin.	Corpus luteum has degenerated. Inhibitory action of progesterone absent, hence, follicles slowly maturing and oestrogen secretion rising. Uterus – oestrogen and oestriol rising.	Proliferative changes are due to the action of oestrogens from the maturing follicles. Controlled by FSH of the anterior pituitary.
2. Proliferative Phase Duration – 6^{th} – appx 14^{th} day, i.e. until ovulation. (a) Mucosa thickens (from less than 1 to more than 2 mm) and becomes more vascular. (b) Endometrial glands become longer, tortuous, narrow	Graafian follicle is maturing and oestrogen secretion rising. On the 14^{th} day ovaulation occurs and corpus lutuem formation starts. Urine – maximum oestrogen excretion.	Caused by further action of oestrogen. Injection of oestrogen in immature or ovariectomised animals produces same changes. Controlled by FSH of anterior pituitary, which is finally inhibited by high oestrogen level.

and straight. (c) Vessels slightly dilate. At the end of this phase basal secretory vacuoles appear beneath the nuclei of glandular cells.		
3. Premenstrual phase (Luteal phase) Duration – 15^{th} – 28^{th} day (2 days) (a) Mucosa thickens futher. (b) Glands more enlarged and distended with mucus. (c) Capillaries dilated like sinus. (d) Exudation of clear or blood stained fluid. (e) Proliferation of stroma cells (as in early placenta). (f) Secretory vacuoles containing glycogen appear above nuclei.	Corpus luteum growing; progesterone secreted – in habiting further maturation of follicles. Corpus luteum attains maximum size on the 19^{th} day, lasts up to 27^{th} day and degenerates on 28^{th} day. Urine – (1) Pregnanediol appears 2 – 3 days after ovulation, arise to maximum about one week before the flow starts, (2) Oestrogen falls.	Caused by progesterone. Only oestrogen or only progesterone cannot cause this. But if progesterone be given after a course of oestrogen these changes are seen. These hormones have got affect on the spiral arteries of the endometium. Formation of corpus luteum and secretion of progesterone are controlled by LH and LTH of anterior pituitary. Discharge of menstrual fluid is aided by the presence of certain prostaglandins.
4. Destructive phase (Menstrual stage) Starts on the 28^{th} day.	Corpus luteum degerates because placental gonadotrophins are	Lack of progesterone is the cause. If a course of progesterone be given

	Duration – 4 – 6 days, During this period capillaries repture and haemorrhage occurs. Superficial Endometrium, with psuodecidual stroma and tortuous glands is sheded; basal layer remains intact.	essential for the further growth of corpus luteum. In absence of pregnancy no placenta forms, hence, corpus luteum degerates.	after a course of oestrogen, typical premenstrual changes occur in the Endometrium. If then progesterone besuddenly withheld, bleeding takes place, identilcal with menstrual discharge.

Oestrogen output is at minimum during menstruation, and rises slowly during the follicular phase, the rate to rise being increased just rises slowly during the follicular phase, the rate of rise being increased just before ovulation. After ovulation it falls to a plateau while the corpus luteum is active and then fall falls to menstrual levels as the corpus luteum degenerates. Progesterone output appears to be at a very low level during the follicular phase. It begins to rise quickly just before ovulation occurs and reaches a peak soon afterwards, thereafter declining until next menstrual bleed. FSH stimulates follicular growth. In a normal oestrous or menstrual cycle there is a burst of LH release about the time of ovulation.

Gravid cycle –

After ovulation, it takes about a week for the ovum to reach the uterus. If fertilization has been taken place, the zygote will be undergoing rapid embryonic development and by the early part of second week of the luteal phase it will have become embedded in the uterine mucosa (nidation, implantation). By this time, the peripheral elements of the blastocyst (so called chorion) begin to secrete a hormone (human chorionic gonadotrophin, HCG). This hormone helps in sustaining the life and function of the corpus luteum beyond the usual limits of a menstrual cycle. The cycle is not therefore interrupted by a menstrual flow and this circumstance may be denoted as the first skipped period. A progestational or secretory Endometrium becomes a

gestational Endometrium simply by the fact of pregnancy. It undergoes further progestational development during early weeks of pregnancy.

Anovulatory cycle.

Anovulatory menstrual cycle is sometimes found in young girls and towards the end of menopause. In some animals, e.g. Rhesus monkey, anovulatory cycle is the usual features. In anovulatory menstrual cycle no ovulation occurs and so no corpus lutuem is formed. The endomentrium changes up to proliferative phase and similar vascular changes as in ovulatory cycle also occur. When there is bleeding its duration may be same as that of ovulatory cycle.

Vaginal cycle

Under the influence of oestrogens, the vaginal epithelium becomes cornified which can be identified in the vaginal smear, while under the influence of progesterone, a thick mucus is secreted and the epithelium proliferates becoming infiltrated with leucocytes.

Clinically it is often of importance to determine the time of ovulation. Biopsy of the Endometrium indicates the functional level. A convinient indication is to determine the basal body temperature. At the time of ovulation, there is a change, usually a rise. The cause of the change is not known.

Abnormalities of ovarian function

If menstrual periods are absent, the condition is known as amenorrhea. Primary amenorrhoea is the condition when menstrual bleeding has never occurred. Cessation of the cycle in women with previously normal periods is known as secondary amenorrhoea. If during regular periods, the flow is scanty, it is called oligomenorrhoea and if profuse, it is known as dysmenorrhoea.

Menopause or female climacteric.

In women with advancing age (45 -55 yrs)certain irregularities in sex life occur due to gradual irresponsiveness of the ovaries to the pituitary gonadotrophin (FSH). Luteum and oestrogen level in the blood stream in high. With these irregularities in gonadal functions, particularly in gametogenesis, the cyclic changes in Endometrium are not observed. Finally the menstruation fails to occur and the women cannot bear children any more. It is usually marked by atrophy of breasts, uterus tubes and ovaries. This

condition is known as menopause. Therefore, menopause is the physiological cessation of menstrual flow in women.

Certain complaints are generally encountered by the menopausal women. These complaints are flushing of the skin, feeling of warmth and also a marked increase in sweating especially about the head and the neck. In association with the above complaints certain emotional disturbances, arthralgias (associated with arthritis). Other menopausal problems may include obesity, believed to result of oestrogen deficiency, osteoporosis due to decreasing protein anabolism, causing a loss of protein matrix particularly to the vertebral column. Osteoporosis causes decalcification and softening of bones which may result in compression fractures of bones.

Excess gonadotrophin secretion during menopause is not the cause of these syndromes as may be supposed but oestrogen therapy has got some satisfactory effects in amelioration the certain symptoms.

GYNECOLOGICAL DISORDERS

1. INFERTILITY

Definition:

Infertility is defined as failure to conceive after one year of regular, unprotected sexual intercourse. It is divided into two categories:

Primary:

The woman has never conceived in spite of having regular unprotected sexual intercourse for at least 12 months

Secondary:

The woman has previously conceived but is subsequently unable to conceive for 12 months despite regular unprotected sexual intercourse.

Causes/Risk Factors

Anovulatory infertility

Tubal factor (STIs, bilateral occlusion, PID)

Endometriosis

Uterine factors (Congenital disorders, Synechia, Myomas, Chromosomal abnormality)

Male factor (STIs, Obstructive disorder, endocrine disorders.)

Cervical mucus abnormalities

Other causes: psychological, smoking, work environment,

Endocrine disorders (Hyperprolactinemia, Hypothyroidism…)

Unexplained infertility

Tubal surgery

Male partner treatment including Vas surgery

Assisted reproduction: In Vitro Fertilization (IVF), Intracytoplasmic sperm injection (ICSI)

Adoption

2. PELVIC MASSES

Definition: An abnormal structure or growth in the pelvic cavity arising from:

Pelvic organs such as the ovaries, fallopian tubes, uterus, cervix, lymph nodes, bladder, bowel, peritoneum and appendix

Metastatic from extra pelvic structures such as stomach or breast

The differential diagnosis for pelvic masses includes: Normal or ectopic pregnancy, distended urinary bladder, uterine fibroids, pelvic abscess, tubo-ovarian mass and ovarian cysts.

Risk Factors

Infertility

Family history of breast, ovarian or colon cancer

Pelvic surgery: Hematoma, abscess

Diverticulitis/Appendicitis

Pelvic Inflammatory Diseases

Endometriosis

Congenital anomalies like pelvic kidney

Smoking

Signs and Symptoms

History of pelvic pain, fever, purulent cervical and vaginal discharge

Heaviness

Pelvic mass

Pelvic pain and fever may be associated

Abnormal uterine bleeding

Dyspareunia, dysmenorrhea, infertility, Amenorrhea

Related signs from the etiology: hemorrhage

Bowel symptoms: Constipation, intestinal obstruction

Decrease appetite, nausea and vomiting, weight loss can be associated

Urinary symptoms: urgency, frequency and urine retention.

Cachexia with malignant masses

Complications

Torsion

Compression

Rupture

Infertility

Degeneration of Myomas

Malignancy transformation

CT Scan and MRI

3. MENSTRUAL DISTURBANCES

Most women suffer some form of menstrual disturbances in their lifetime

3.1. Ammenohorea

There are two types: primary and secondary

3.1.1. Primary amenorrhea

Definition: Absence of menses at 14 years of age without secondary sexual development or age 16 with secondary sexual development

Causes /Risk factors

Hypothalamic –pituitary insufficiency

Ovarian causes

Out flow tract/Anatomical (e.g.vaginal agenesis/septum, imperforated hymen or Mullerian ageneis)

Chromosomal (e.g. complete endrogen insensitivity, gonadal dysgenesis,"Turner syndrome")

Signs and symptoms

Absence of menses at age 14 without secondary sexual development

Presence of secondary sexual character development and absence of menses at age 16

Absence or presence of pelvic pain

3.1.2. Secondary amenorrhea

Definition: Cessation or stopping of menstruation for a period equivalent to a length of 3 consecutive cycles or 6 months

Causes

Pregnancy and lactation

Menopause

Hyopthalamo-pituitary (Inflammatory, neoplastic, Traumatic)

Stress

Anxiety

Excessive loss of weight

Drugs (danazol, LHRH analogue like decapeptyl)

Contraceptives

Chronic diseases

Multiple genetic disorders

Premature ovarian failure (POF)

Polycystic ovarian syndrome (PCOS)

Traumatic curettage, Post partum infection (Asherman syndrome)

Signs and symptoms

At least 3 consecutive cycles of absence of menses

History of curettage, post partum infection

Galactorrhea

Premature menopause

Obesity

Headache

Visual defects

Polyuria, Polydypsia

3.2. Dysmenorrhea

Definition: Dysmenorrhea is characterized by: Pain occurring during menstruation

3.2.1. Primary dysmenorrhea

In adolescence with absence of pelvic lesions after 6 months of menarche

6 months after menarche with the onset of ovular cycles.

It is suprapubic, tends to be worst on the first day of menstruation, and improves thereafter.

Associated with increased frequency and amplitude of myometrial contractions mediated by prostaglandins

Associated with GIT symptoms like vomiting and diarrhea

Causes

Excess secretion of prostaglandins

Immaturity of the Hypothalamic- Pituitary -ovarian axis leading to anovulatory cycle

Outflow tract obstruction

3.2.2. Secondary dysmenorrhea

Later in reproductive life

Presence of pelvic lesion, such as uterine fibroids or endometrial polyps

Pelvic lesions

Dyspareunia (pain with intercourse)

Pelvic/lower abdominal pain occurring before, during, after menstruation

Pelvic/lower abdominal pain occurring on days 1 and 2 of the menstrual cycle.

An endometrial polyp or submucous fibroids usually occurring at the beginning of menstruation cause Pelvic/ lower abdominal pain.

3.3. Premenstrual syndrome

Definition: Premenstrual syndrome (PMS) or premenstrual tension (PMT) is a very common disorder affecting up to 95% of women. It occurs mostly the last week before menstruation (premenstrual phase) resolving or markedly improving at menstruation

Risk factors

Hormone changes over a normal menstrual cycle (excesses or deficiencies of estrogen or progesterone)

Side effects caused by the Progesterone component of cyclical Hormonal Replacement Therapy

Excessive Serotonin and β-endorphins secretion

Exaggerated end-organ response to the normal cyclical changes in ovarian hormones.

Signs and Symptoms

Most women will experience at least one of menstrual related symptoms

Physical, Emotional and Behavioral changes

Anxiety

Irritability

Bloating/fluid retention

Social, family, or occupational disruption

Backache

Violence

Headache

Aggression

Breast tenderness/swelling

Fatigue and Clumsiness

Depression and Loss of concentration

Food craving

Anorexia

Mood swings

4. ABNORMAL UTERINE BLEEDING (AUB)

Definition

AUB is an abnormal uterine bleeding with no obvious organic cause. It can appear with ovulatory or anovulatory cycle. A normal menstrual period lasts 2-7 days and a normal cycle lasts between 21 and 35 days.

Types

Ovulatory bleeding: short bleeding associated with the ovulation

Menorrhagia: heavy or prolonged menstrual bleeding

Metrorrhagia: Uterine bleeding other than menorrhagia

Causes/Risk factors

Adenomyosis

Uterine fibroids, polyps

Coagulation bleeding disorders (Von willebrand disease, Hemophilia, coagulopathies)

Pregnancy

Medications

Others (Hormonal, Endocrine, Anatomical defects)

Signs and Symptoms

Bleeding form the uterine cavity on speculum examination

Tachycardia, anemia, Asthenia, dizziness

Painless but sometimes pelvic pain occurs

Abdominal pelvic mass

Complications

Dysparunia

Infertility

Anemia

Hypovolemic shock

5. CANCERS AND TUMORS

5.4. Ovarian cancer

Definition: Ovarian cancer is the leading cause of death of among all gyneacologic cancer worldwide. More than 90% of ovarian cancers are epithelial origin from the surface (coelomic) epithelium. It is the most common gynecological cancer.

Classification

Epithelial Ovarian Cancer

Germ Cell Ovarian Cancer

Sex cord Stromal tumour

Metastatic ovarian cancer from stomac (Krukenberg cancer)

Risk Factors

Postmenaupaussal women but the cancer is considered in Women above 40 years old

Family history of 2 or more affected first degree relatives (mother and sister)

The family risk associated with predisposition to breast and ovarian cancer is inherited in an autosomal dominant by a gene (BRCA1) located on Chromosome 17

Abnormal ovarian development as in Turner's syndrome

Nulliparity

Ovulatory stimulant drugs

Stages

Stage I**:** Disease confined to the ovaries (25% of presentations)

Stage Ia: Involving only one ovary

Stage Ib: Involving both ovaries

Stage Ic: Positive cytology or ascites or breaching the capsule of either ovary

Stage II: Confined to pelvis (5-10% presentations)

Stage III: Confined to peritoneal cavity (45% presentations)

Stage IIIa: Micronodular disease outside the pelvis

Stage IIIb: Macroscopic tumor deposits <2 cm

Stage IIIc: Tumor >2 cm or retroperitoneal node involvement

Stage IV: Distant metastases (20% of presentations)

Signs and Symptoms

Most are asymptomatic

Lower abdominal pain

Pelvic mass

Menstrual disturbances (e.g.menorrhagia)

Gastro intestinal signs

Pressure symptoms (Dyspareunia, urinary frequency, constipation)

Ascites and any other signs related to metastasis

Complications

Spread of the cancer to other organs (metastases)

Severe loss of weight

Ascites

Intestinal occlusion

Death

Investigations

Abdominal ultrasound

Intravenous urogram

Ascitic tap for cytology

Laparotomy/laparoscopy for biopsy and histology

CT-scan and/or MRI

CA-125

Chest x-ray, FBC, liver function, renal function

6. MENOPAUSE

Definition: The menopause is the cessation of menstruation for at least 12 months in a female and physiologically occurs at the age of 45 to 55 years.

Causes

--Age

--Primary ovarian failure

--Radiation and drugs

--Surgery

--Sheehan syndrome

Signs and Symptoms

--"Hot flushes "(i.e.; a sudden, unanticipated, and often unpleasant wave of body heat that can range from mild to intense)

--Night sweats

--Palpitations

--Headaches

--Insomnia, tiredness

--Cessation of menses

--Vaginal atrophy and dryness

--Loss of libido, painful intercourse

--Bladder irritability, incontinence, UTIs

--Skin changes: dryness, thinning, loss of head hair, increase or loss of body hair

--Mood swings, emotional change

--Lack of concentration, failing memory

--Osteoporosis

7. PELVIC INFLAMMATORY DISEASES (PID)

Definition: PID is infection, usually sexually transmitted disease often including any combination of inflammatory disorders involving uterus, fallopian tubes, ligaments of the uterus, and sometimes ovary

Causes

Pathogens (Neisseria gonorrhea, Chlamydia trachomatis, anaerobies, mycoplasma hominis, Gardnerella vaginalis . . .)

Risk factors

--Age < 20 represent 75 %

--Earlier age at first sexual intercourse

--Multiple sexual partners

--History of STIs

--Induced abortion

--IUD

--HSG

--Post partum and post abortum endometritis

Signs and Symptoms

--Asymptomatic

--Fever

--Lower abdominal tenderness,

--Cervical-uterine-adnexal excitation tenderness

--Abnormal vaginal discharge

--Abnormal genital bleeding

--Dyspareunia

ii) Literature review of Cancer from Modern Medical Science

Introduction & History:

The Greek term carcinoma is the medical term for a malignant tumor derived from epithelial cells. It is **Celsus** who translated carcinos into the Latin cancer, also meaning crab. Galen used "oncos" to describe all tumours, the root for the modern word oncology.

Hippocrates described several kinds of cancers. He called benign tumours oncos, Greek for swelling, and malignant tumours carcinos, Greek for crab or crayfish. This name comes from the appearance of the cut surface of a solid malignant tumour, with "the veins stretched on all sides as the animal the crab has its feet, whence it derives its name" He later added the suffix -oma, Greek for swelling, giving the name carcinoma. Since it was against Greek tradition to open the body, Hippocrates only described and made drawings of outwardly visible tumors on the skin, nose, and breasts. Treatment was based on the humor theory of four bodily fluids (black and yellow bile, blood, and phlegm). According to the patient's humor, treatment consisted of diet, bloodletting, and/or laxatives. Through the centuries it was discovered that cancer could occur anywhere in the body, but humor-theory based treatment remained popular until the 19th century with the discovery of cells.

Our oldest description and surgical treatment of cancer was discovered in Egypt and dates back to approximately 1600 B.C. The Papyrus describes 8 cases of ulcers of the breast that were treated by cauterization, with a tool called "the fire drill." The writing says about the disease, "There is no treatment."

Another very early surgical treatment for cancer was described in the 1020s by Avicenna (Ibn Sina) in The Canon of Medicine. He stated that the excision should be radical and that all diseased tissue should be removed, which included the use of amputation or the removal of veins running in the direction of the tumor. He also recommended the use of cauterization for the area being treated if necessary.

In the 16th and 17th centuries, it became more acceptable for doctors to dissect bodies to discover the cause of death. The German professor Wilhelm Fabry believed that breast cancer was caused by a milk clot in a mammary duct.

The Dutch professor Francois de la Boe Sylvius, a follower of Descartes, believed that all disease was the outcome of chemical processes, and that acidic lymph fluid was the cause of cancer. His contemporary Nicolaes Tulp believed that cancer was a poison that slowly spreads, and concluded that it was contagious.

The first cause of cancer was identified by British surgeon Percivall Pott, who discovered in 1775 that cancer of the scrotum was a common disease among chimney sweeps. Tumor growth is the result of disturbance in the homeostatic control of tissue size. Among the normal tissues of the body. Some cell is stable once postembryonic and early post natal development and subsequent life span. In the other cell proliferation continues into adult life with continual new cell population. In tissue like bone marrow it is replaced every few days. Normal tissues achieve balance between cell production and cell loss, but neoplasia is disturbed balance between cell production, cell loss, over growth, progressive and irreversible.

- **Derivation :-**

1. **Cancer:**

Cancer is derived from Latin root word "CANERUM" and Greek word "KARKINOS" which means one animal –Crab. The synonym of cancer to a crab and its fatalism has been described in Alexander Solzheneistsyns famous novel "Cancer Word". The crab once grabs the patients with its invading pioneers, doesn't let it go until the victim croaks. W. R. Belt suggested that the terminology is used for its adherence i.e. like a crab and cannot be separated from each other.

2. **Neoplasm:**

It is made of two words**,** NEOS +PLASUM. In Greek word "Neos" meaning new. "Plasum" meaning third formed i.e. new and abnormal growth in a different way from their non-malignant ancestors.

3. **Tumor:**

Tumor is derived from Latin root word "Tumex" i.e. to Swell.

Malignant:

Malignant is an adjective having many meaning. In connection with neoplasm, it implies resistance to treatment, a strong tendency to grow worse with fatal termination. **"Cancer is a malignant neoplasm".**

- **Definition:-**

1. **Cancer:**

Cancer is cellular tumor the natural course of which is fatal and usually associated with formation of secondary tumours.

2. **Neoplasm:**

Neoplasm is a mass of new tissue, which persists and grows independent of its surrounding structures and which has no physiological use.

3. **Tumour:**

Tumor is an abnormal mass of tissue, which exceeds and is un co-ordinate with that of normal tissues and persists in the same excessive manner.

❖ **Main categories of Cancer :-**

1. **Carcinoma** - Cancer that begins in the skin or in tissues that line or cover internal organs.
2. **Sarcoma** - Cancer that begins in bone, cartilage, fat, muscle, blood vessels, or other connective or supportive tissue.
3. **Leukemia** - Cancer that starts in blood-forming tissue such as the bone marrow and causes large numbers of abnormal blood cells to be produced and enter the blood.
4. **Lymphoma and myeloma** - Cancers that begin in the cells of the immune system.
5. **Central nervous system cancers** - Cancers that begin in the tissues of the brain and spinal cord.

❖ **Origins of Cancer :-**

All cancers begin in cells, the body's basic unit of life. To understand cancer, it's helpful to know what happens when normal cells become cancer cells.

The body is made up of many types of cells. These cells grow and divide in a controlled way to produce more cells as they are needed to keep the body healthy. When cells become old or damaged, they die and are replaced with new cells.

However, sometimes this orderly process goes wrong. The genetic material DNA of a cell can become damaged or changed, producing mutations that affect normal cell growth and division. When this happens, cells do not die when they should and new cells form when the body does not need them. The extra cells may form a mass of tissue called a tumour.

MATERIAL AND METHODS

Material

1. 60 females divided in two groups
   1) Group A– Control group
      30 non cancerous females proven by USG (Abdomen & Pelvis) and physical per abdominal examination.
   2) Group B – Study group
      Histological proven 30 ovarian carcinoma patients.
2. References of Aartavavah srotasdushti from Bruhat Trayee & Laghu Trayee.
3. References of Ovarian carcinoma from Oncological books & Journals.
4. References from Internet about ovarian carcinoma.
5. Specially designed questionnaire to study Aartavavah srotas.

Methods

- ✓ Type of study –Case control study
- ✓ Appropriate statistical test will be applied for the result obtained from the study.
- ✓ Time frame for study – 4 months
- ✓ Inclusive criteria
  - Females above 18 - 70 years of age.
  - 30 histological proven all type of ovarian carcinoma patients of all stages and grades.
  - 30 non any carcinoma females proven by USG (Abdomen & Pelvis) and physical per abdominal examination.
  - Females from urban area.
  - Females from Upper, Upper middle and middle socio economical status
- ✓ Exclusive criteria
  - Pregnant and lactating females.
  - Known cases of any carcinoma patients other than ovarian carcinoma.
  - Unable to give detail history due to illness.

Methodology

1. 30 females with known case of ovarian carcinoma and 30 non cancerous females fulfilling the criteria of selection will be selected for the study.
2. Time frame for work will be 4 months.
3. Informed consent form from each included females will be taken.
4. Details case taking will be done according to methodology described in Ayurveda.
5. Aartavavah srotodushti symptoms and risk factors will be studied using specially designed questionnaire on the basis of Ayurvedic principles in both groups.
6. Reference for questionnaire – some part of questionnaire is referred from EORTC - QLQ
7. Following variables will be studied in the questionnaire in both the groups-
   A. Aartavavah srotodushti
      - Rajodushti – Atyartav, Anartav, Kashtartava, early menarche, delayed menopause, etc.
      - Past medication.
   B. Risk factors of Aartavvah srtotodushti
      - Dietary factors – Rasa, guna, paryushitanna, virudhdanna, backery products, etc
      - Vihara – Divaswap, atijagaran , vegdharan, etc
      - Mansik hetu, Addiction, Hereditary

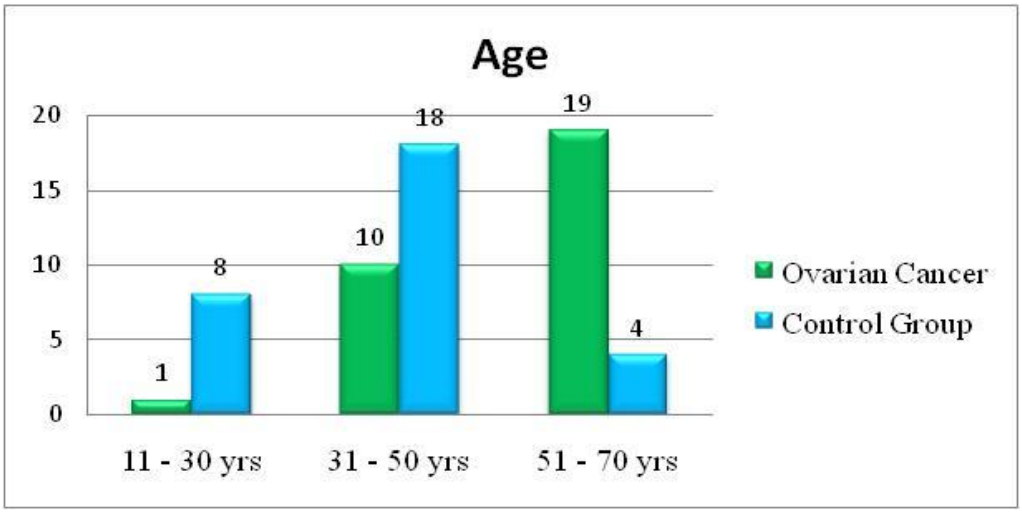
Observations

1. **Table showing Age wise distribution of subjects enrolled in the study**

	11 – 30 yrs	%	31 to 50yrs	%	51 to 70 yrs	%
Ovarian cancer	1	3%	10	33%	19	63%
Control group	8	26%	18	60%	4	13%

In age wise observation, Out of 30 ovarian cancer patient, 1 patient (3%) was in 11 to 30 yrs of age group, 10 patients (33%) were in 31 to 50 yrs of age group and 19 patients (63%) were in 51 to 70 yrs of age group.
Out of 30 women of control group, 8 women (26%) were in 11 to 30 yrs of age group, 18 patients (60%) were in 31 to 50 yrs of age group and 4 patients (13%) were in 51 to 70 yrs of age group.

1. **Graph showing Age wise distribution of subjects enrolled in the study**



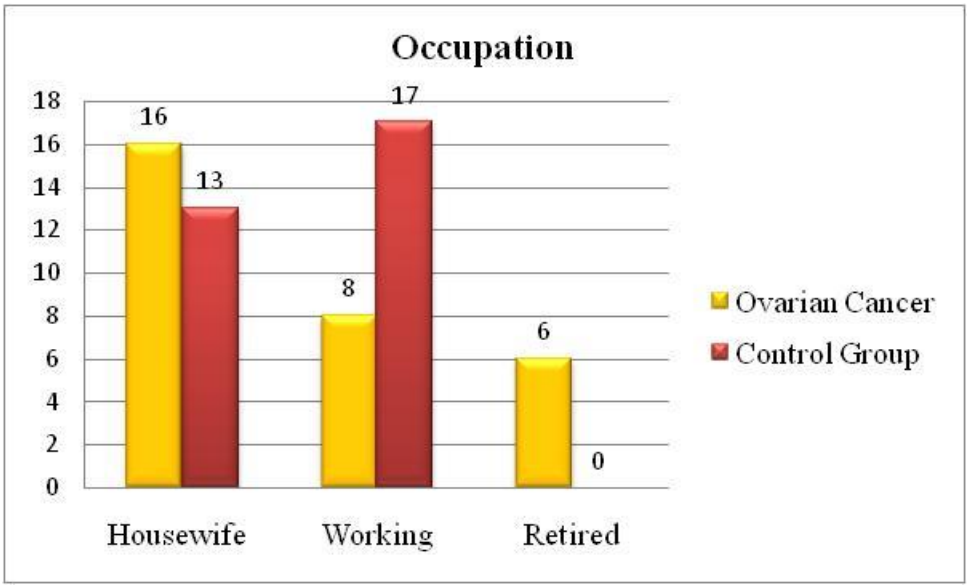
2. Table showing occupation wise distribution of subjects enrolled in the study

	Housewife	%	Working	%	Retired	%
Ovarian cancer	16	53%	8	27%	6	20%
Control group	13	43%	17	57%	0	0%

In this occupation wise observation, out of 30 ovarian cancer patient, 16 patients (53%) were housewives, 8 patients (27%) were working women & 6 patients (20%) were retires women.

Out of 30 control group women, 13 women were (43%) were housewives, 17 women (57%) were working women

2. Graph showing occupation wise distribution of subjects enrolled in the study



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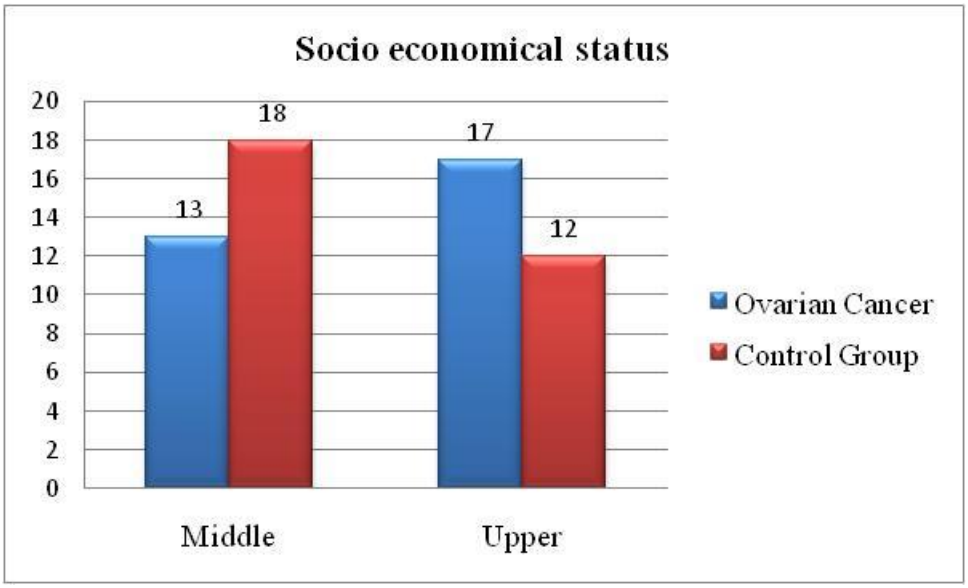
3. **Table showing socio-economical status wise distribution of subjects enrolled in the study**

	Middle	%	Upper	%
Ovarian cancer	13	43%	17	57%
Control group	18	60%	12	40%

In this observation out of 30 ovarian cancer patients, 13 patients (43%) were from middle soci0-economical status & 17 (57%) patients were upper socio-economical status.

Out of 30 control group women, 18 (60%) were from middle socio-economical status & 12 (40%) were from upper socio-economical status.

3. **Graph showing socio-economical status wise distribution of subjects enrolled in the study**



4. Table showing association of occurrence of miscarriage and risk of developing ovarian cancer

	Never	%	1 - 2 times	%	More than 2 times	%
Ovarian Cancer patients	22	73	7	23	1	3
Control Group	29	96	1	3	0	0

Out of 30 ovarian cancer patients, 22patient (73%) had no history of miscarriage, 7 patients (23%) had 1 – 2 times history of miscarriage and 1 patient (3%) had more than 2 times history of miscarriage.

Out of 30 control group women, 29 women (96%) had no history of miscarriage, 1 woman (3%) had 1 – 2 times history of miscarriage and no woman had more than 2 times history of miscarriage.

4. Graph showing association of occurrence of miscarriage and risk of developing ovarian cancer

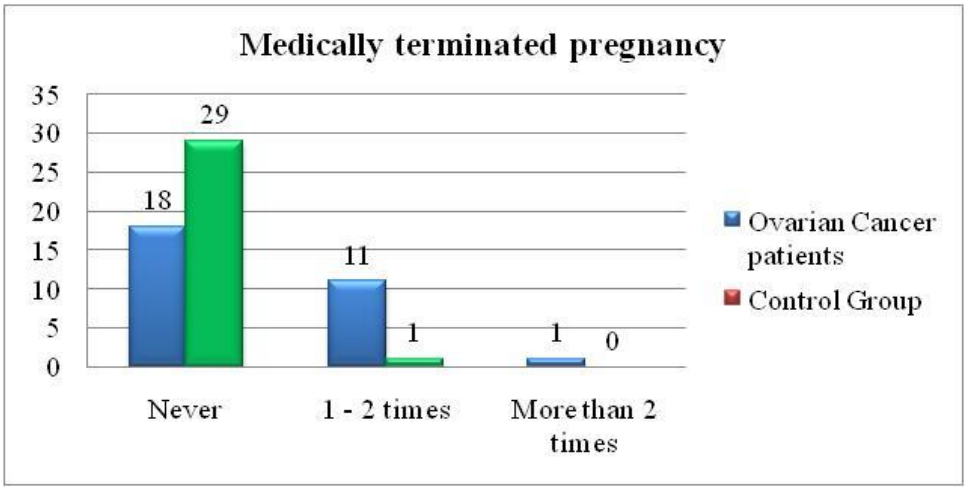
5. Table showing association of history of Medically Terminated Pregnancy (MTP) and risk of developing ovarian cancer

	Never	%	1 - 2 times	%	More than 2 times	%
Ovarian Cancer patients	18	60	11	36	1	3
Control Group	29	96	1	3	0	0

Out of 30 ovarian cancer patients 19 patients (60%) had no history of MTP, 11 patients (36%) had 1 – 2 times MTP and 1 patient (3%) had more than 2 times history of medically terminated pregnancy.

Out of 30 control group women, 29 women (96%) had no history of MTP, 1 woman (3%) had 1 – 2 times MTP and no woman had more than 2 times history of medically terminated pregnancy.

5. Graph showing association of history of Medically Terminated Pregnancy (MTP) and risk of developing ovarian cancer



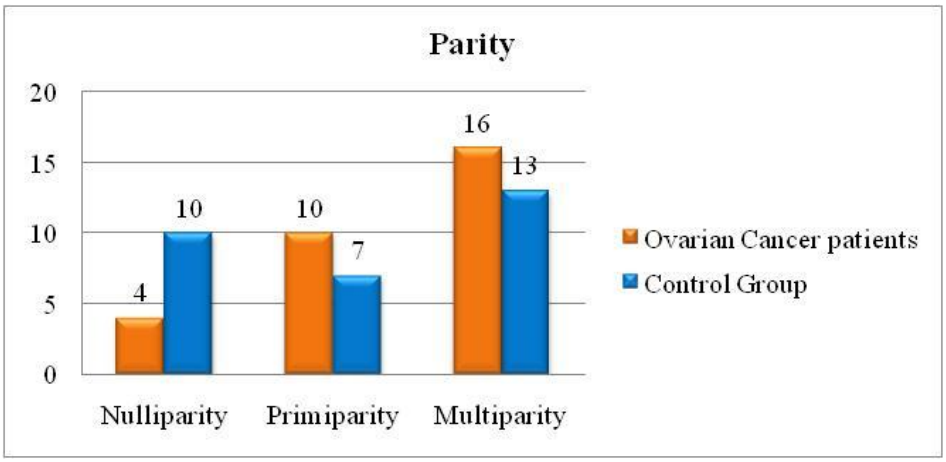
6. Table showing association of parity and risk of developing ovarian cancer

	Nulliparity	%	Primiparity	%	Multiparity	%
Ovarian Cancer patients	4	13%	10	33%	16	53%
Control Group	10	33%	7	23%	13	43%

Out of 30 ovarian cancer patients 16 patients (3%) were multiparous, 10 patients (33%) were primiparous and 4 (13%) patients were nuliiparous.

Out of 30 control group women, 13 women (43%) were multiparous, 10 women (33%) were nuliiparous and 7 women (23%) were primiparous.

6. Graph showing association of parity and risk of developing ovarian cancer



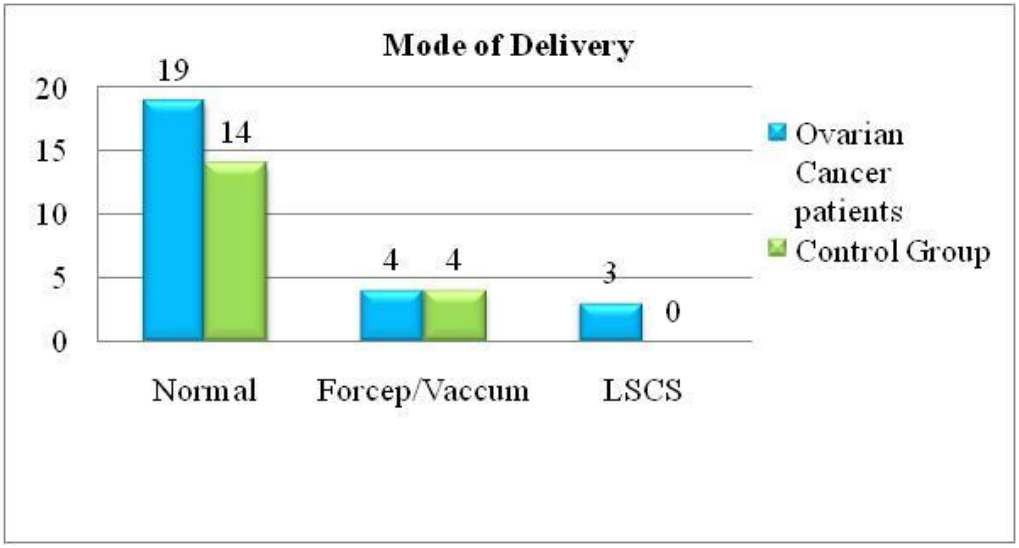
7. Table showing association of nature of delivery and risk of developing ovarian cancer

	Normal	%	Forceps/Vacuum	%	Lower segment Cesarian section (LSCS)	%
Ovarian Cancer patients	19	63%	4	13%	3	10%
Control Group	14	46%	4	13%	0	0%

Out of 30 ovarian cancer patients 19 (63%) had history of normal delivery, 4(13%) had history of Forceps or Vacuum delivery and 3 (10%) had history of Lower segment Cesarian section (LSCS).

Out of 30 women of control group 14 (46%) had history of normal delivery, 4 (13%) were delivered with forceps or vacuum and none was delievered with LSCS.

7. Graph showing association of nature of delivery and risk of developing ovarian cancer



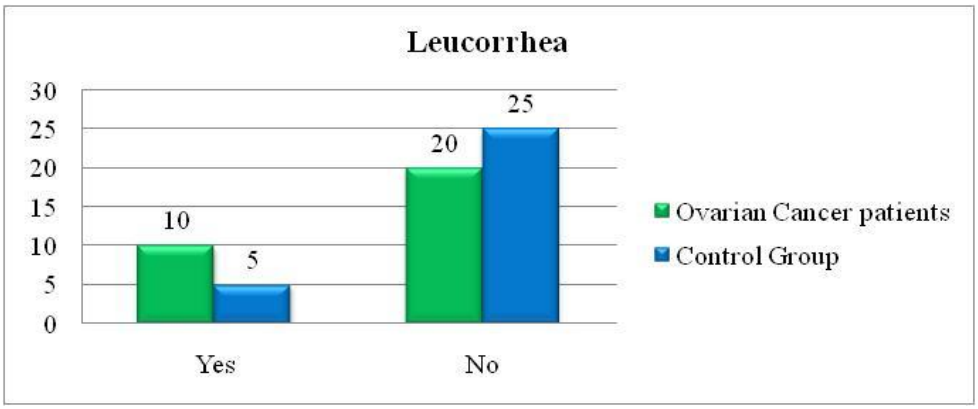
8. Table showing association of leucorrhea and a risk of developing ovarian cancer

	Yes	%	No	%
Ovarian Cancer patients	10	33%	20	66%
Control Group	5	16%	25	83%

Out of 30 ovarian cancer patients 10 patients (33%) had history of Leucorrhea and 20 patients (66%) had no history of Leucorrhea.

Out of 30 women of control group 5 women (16%) had history of Leucorrhea and 25 patients (83%) did not have history of Leucorrhea.

8. Graph showing association of leucorrhea and a risk of developing ovarian cancer



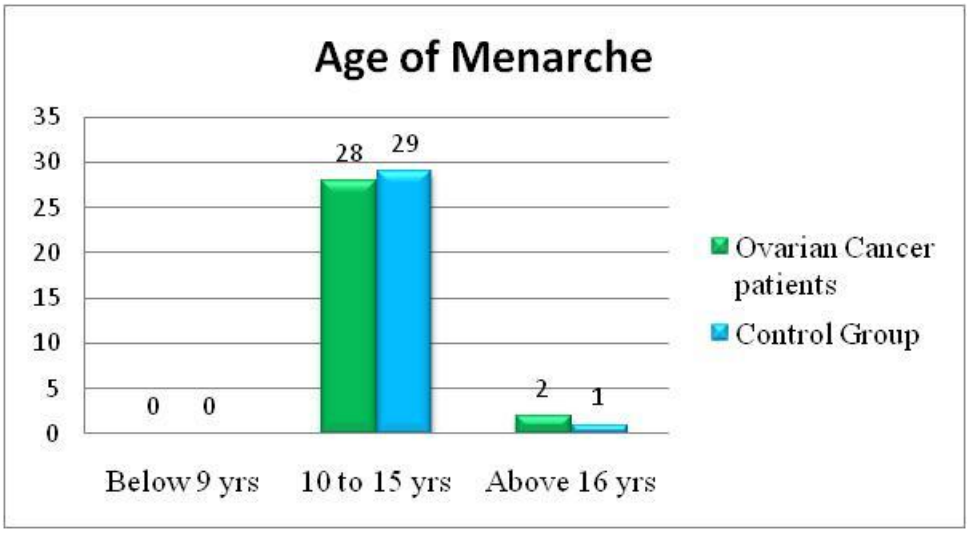
9. Table showing association of age of onset of menarche and risk of developing ovarian cancer

	Below 9 yrs	%	10 to 15 yrs	%	Above 16 yrs	%
Ovarian Cancer patients	0	0	20	66%	2	6%
Control Group	0	0	29	96%	1	3%

Out of 30 ovarian cancer patients, 20 patients (66%) had history of menarche at the age between 10 to 15 yrs and 2 patients (6%) had history of menarche at the age above 16 yrs (late menarche).

Out of 30 women of control group, 29 women (96%) had history of menarche at the age between 10 to 15 yrs and 1 woman (33%) had history of menarche at the age above 16 yrs.

9. Graph showing association of age of onset of menarche and risk of developing ovarian cancer



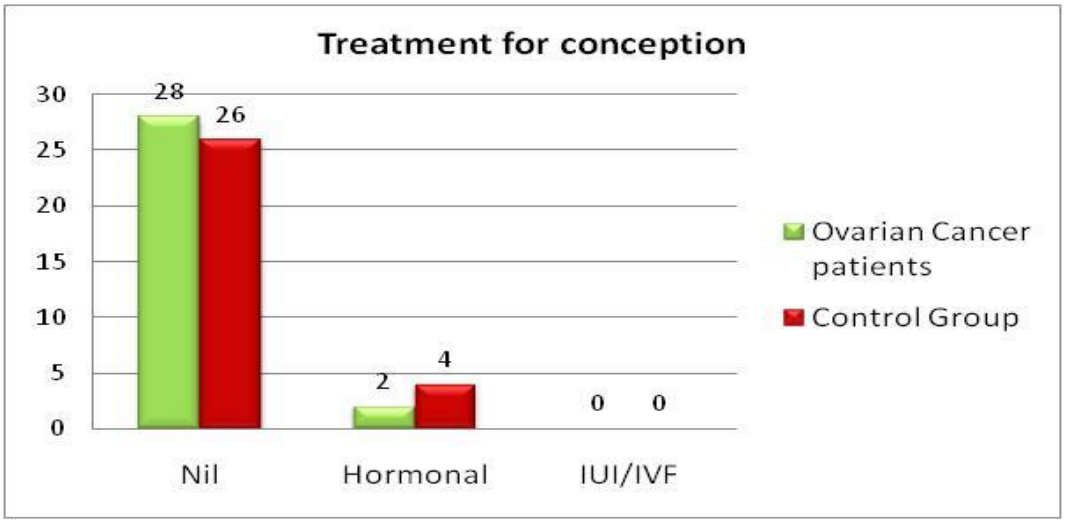
10. Table showing association of history of use of treatment for conception and risk of developing ovarian cancer

	Nil	%	Hormonal treatment	%	IUI/ IVF	%
Ovarian Cancer patients	28	93%	2	6%	0	0%
Control Group	26	86%	4	13%	0	0%

Out of 30 ovarian cancer patients, 28 patients (93%) had no history of any treatment for conception and 2 patients (6%) had history of hormonal treatment for conception.

Out of 30 women of control group 26 women (86%) had no history of any treatment for conception and 4 women (13%) had history of hormonal treatment for conception.

10. Graph showing association of history of use of treatment for conception and risk of developing ovarian cancer



11. Table showing association of contraceptive used and risk of developing ovarian cancer

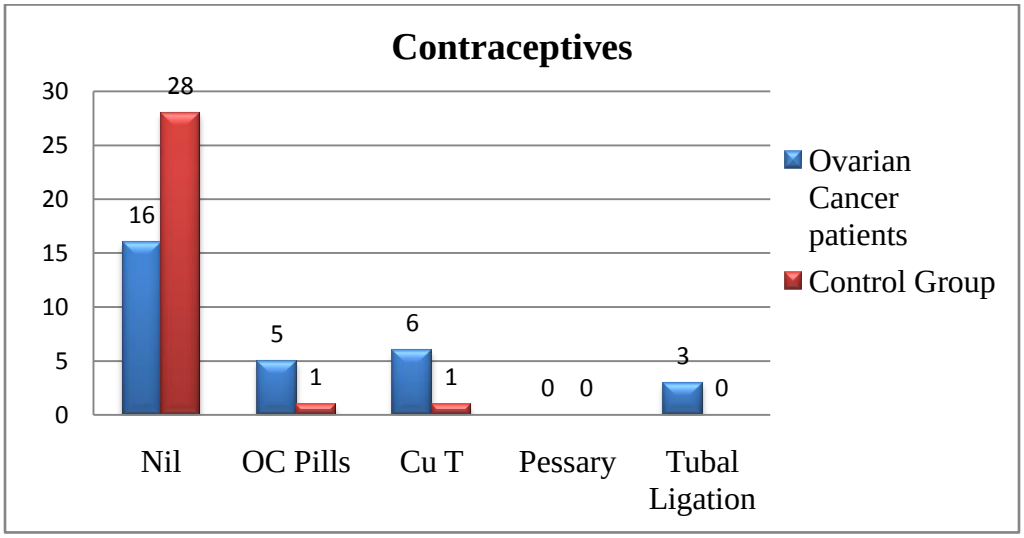
a. Table showing type wisedistribution of contraceptive

	Nil	%	Oral contraceptive pills	%	Cu T	%	Pessary	%	Tubal Ligation	%
Ovarian Cancer patients	16	53%	5	16%	6	20%	0	0 %	3	10%
Control Group	28	93%	1	3%	1	3%	0	0 %	0	0%

Out of 30 ovarian cancer patients, 16 patients (53%) did not have history of use of any contraceptives, 5 patients (16%) had history of use of oral contraceptive pills and 6 patients (20%) had history of use of Cu T as contraceptive.

Out of 30 women of control group 28 women (93%) did not have history of use of any contraceptives and 1 woman (13%) had history of oral contraceptive pills, also 1 woman (3%) had history of Cu T.

a. Graph showing type wise distribution of contraceptive



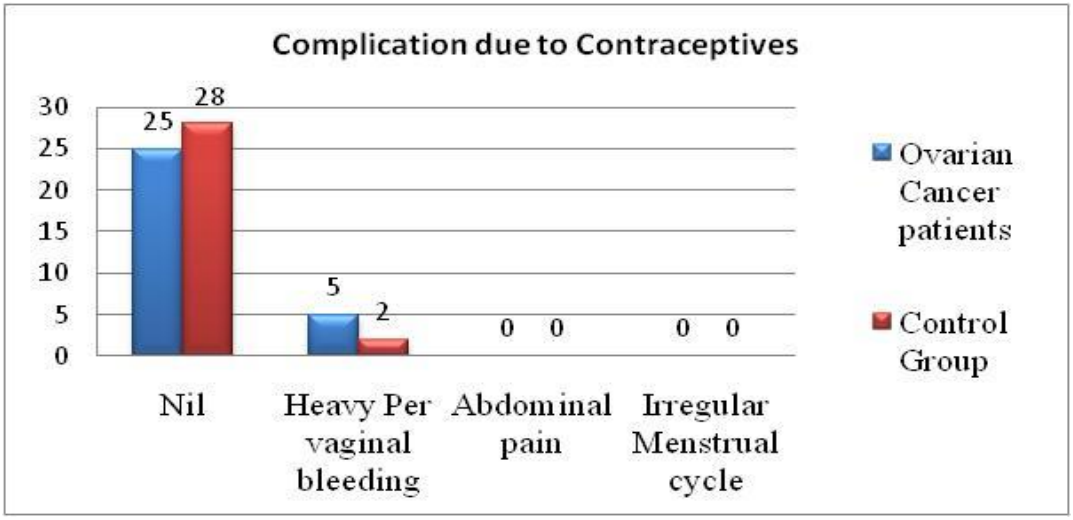
b. Table showing complication wise distribution of use of contraceptive

	Nil	%	Heavy Per vaginal bleeding	%	Abdominal pain	Irregular Menstrual cycle
Ovarian Cancer patients	25	83%	5	16%	0	0
Control Group	28	93%	2	6%	0	0

Out of 30 ovarian cancer patients, 25 patients (83%) did not have history of any complications due to use of contraceptives and 5 patients (16%) had history of heavy per vaginal bleeding due to use of contraceptives.

Out of 30 women of control group 28 women (93%) did not have history of any complications due to use of contraceptives and 2 women (6%) had history of heavy per vaginal bleeding due to use of contraceptives.

b. Graph showing complication wise distribution of use of contraceptive



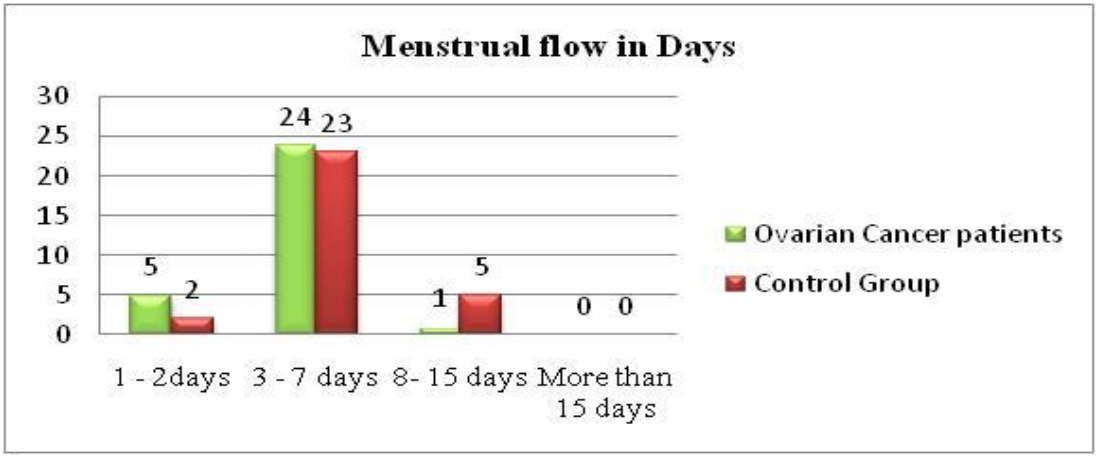
12. Table showing association of duration of menstrual flow and risk of developing ovarian cancer

	1 – 2 days	%	3 – 7 days	%	8 – 15 days	%	More than 16 days	%
Ovarian Cancer patients	5	16%	24	76%	1	3%	0	0
Control Group	2	6%	23	80%	5	16%	0	0

Out of 30 ovarian cancer patients, 24 patients (76%) had history of menstrual flow for 3 to 7 days and 5 patients (16%) had history of menstrual flow for 1 to 2 days and 1 patient had history of menstrual flow for 8 to 15 days.

Out of 30 women of control group 23 women (80%) had history of menstrual flow for 3 to 7 days and 2 women (6%) had history of menstrual flow for 1 to 2 days, 5 women had history of menstrual flow for 8 to 15 days.

12.Graph showing association of duration of menstrual flow and risk of developing ovarian cancer



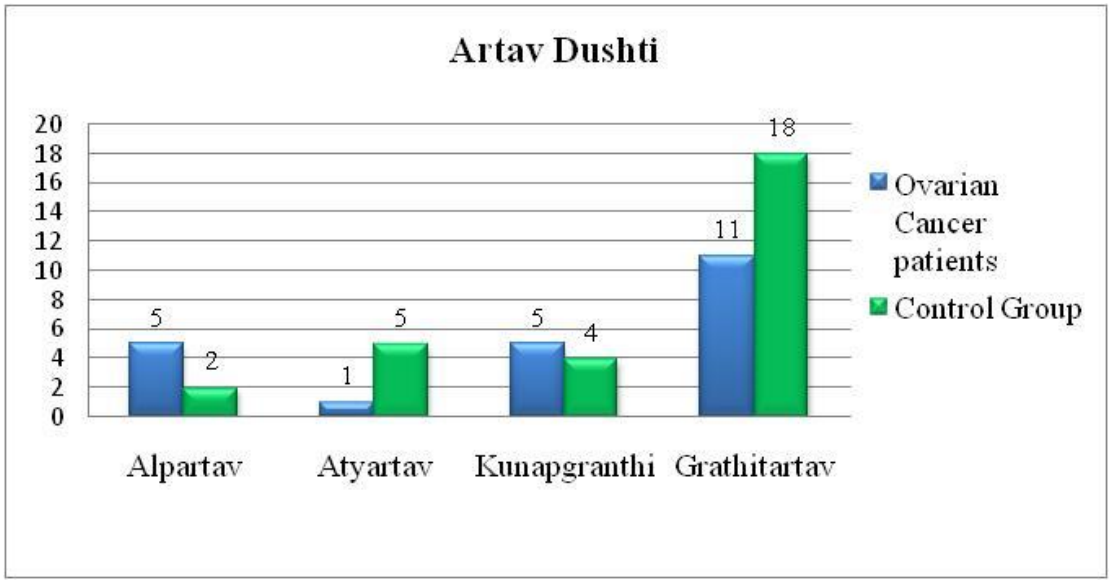
13. Table showing association of nature of Aartavdushti and risk of developing ovarian cancer wise

	Alpartav	%	Atyartav	%	Kunapgranthi	%	Grathitartav	%
Ovarian Cancer patients	5	16%	1	3%	5	16%	18	60%
Control Group	2	6%	5	16%	4	13%	18	60%

Out of 30 ovarian cancer patients, 5 patients (76%) had history of Alpartav, 5 patients (16%) had history of Kunapgranthiartav, 1 patient had history of Atyartav, 18 patients (60%) had history of Grathithartav.

Out of 30 women of control group 2 women (6%) had history of Alpartav, 5 women (16%) had history of Atyartav, 4 (13%) women had Kunapgranthiaartav, 18 (60%) had history of Grathitartav.

13.Graph showing association of nature of Aartavdushti and risk of developing ovarian cancer wise



14. Table showing association of family history of cancer and risk of developing ovarian cancer

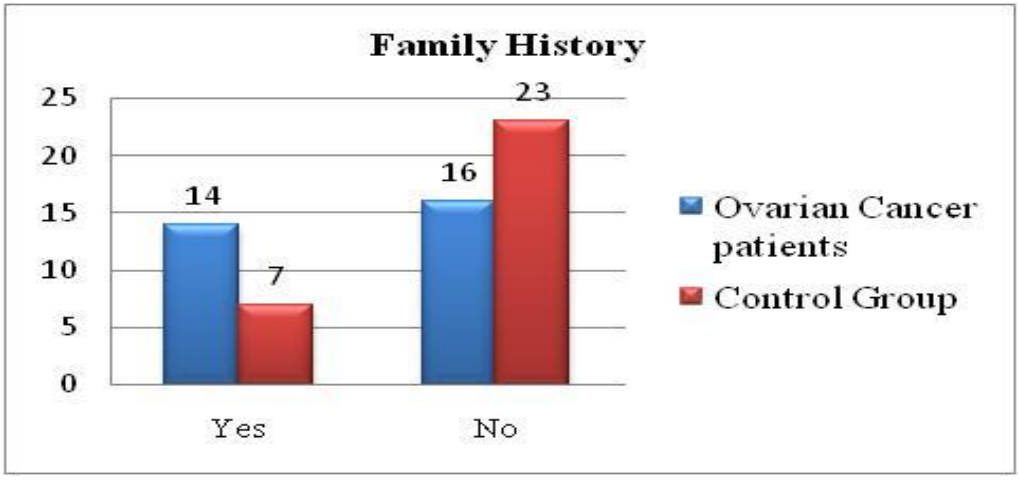
a. Distribution as per Positive or negative family history of cancer

	Yes	%	No	%
Ovarian Cancer patients	14	46%	16	53%
Control Group	7	23%	23	16%

Out of 30 ovarian cancer patients 14 patients (46%) had family history of cancer and 16 patients (53%) had no family history of cancer.

Out of 30 women of control group 7 women (23%) had family history of cancer and 23 patients (16%) had no family history of cancer.

14.a Distribution as per Positive or negative family history of cancer



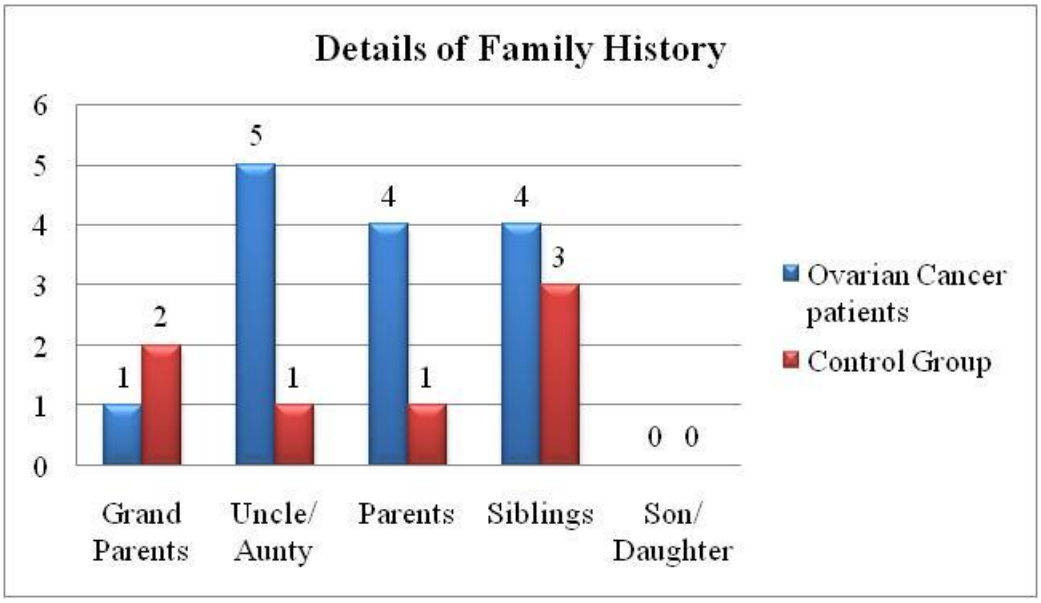
b. Distribution as per relation of relatives having family history of cancer

	Grand parents	%	Uncle/ Aunty	%	Parents	%	Siblings	%	Son/Daughter	%
Ovarian Cancer patients	1	3%	5	16%	4	13%	4	13%	0	
Control Group	2	6%	1	3%	1	3%	3	10%	0	

Out of 30 ovarian cancer patients 1 patient (3%) had family history of cancer in grandparents, 5 patients (16%) had family history of cancer in uncle or aunty, 4 patient (13%) had family history in parents and 4 (13%) had family history in siblings.

Out of 30 women of control group 2 women (6%) had family history of cancer in grandparents, 1woman (3%) had family history in uncle or aunty, 1woman (3%) had family history in parents and 3 women (10%) had family history in siblings.

14.b Distribution as per relation of relatives having family history of cancer

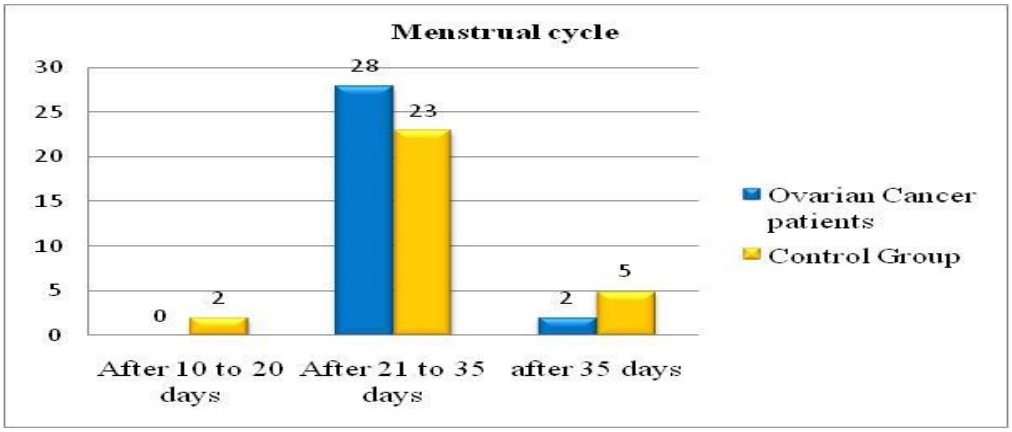


15. Table showing association of days between two menstrual cycles and risk of developing ovarian cancer

	After 10 to 20 days	%	After 21 to 35 days	%	After 35 days	%
Ovarian Cancer patients	0	0	28	93%	3	10%
Control Group	2	6%	23	76%	5	16%

Out of 30 ovarian cancer patients 28 patients (93%) had menstrual cycles after every 21 to 35 days, 3 patients (10%) had history of menstrual cycle after 35 days. Out of 30 women of control group 2 women (6%) had history of menstrual cycle every 10 to 20 days, 23 women (76%) had history of menstrual cycle after every 21 to 35 days and 5woman (16%) had history of menstrual cycle after 35 days.

15.Graph showing association of days between two menstrual cycles and risk of developing ovarian cancer



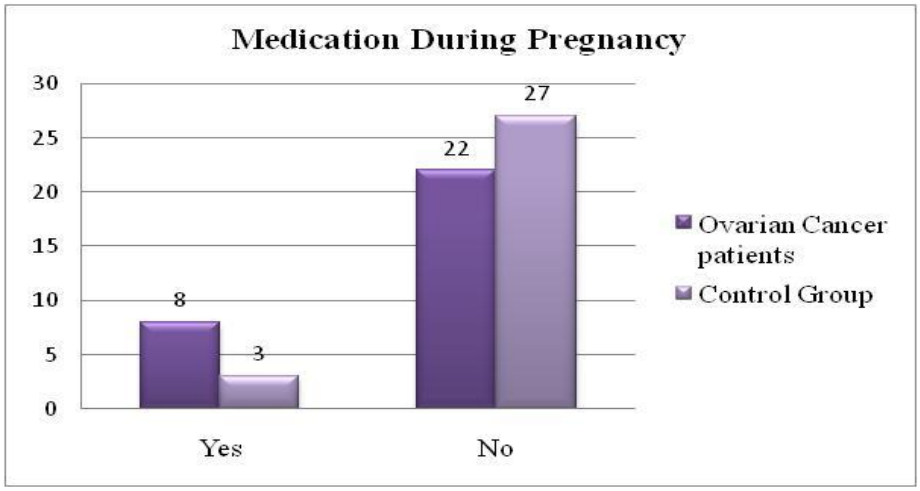
16. Table showing association of medication for complications during pregnancy and risk of developing ovarian cancer

	Yes	%	No	%
Ovarian Cancer patients	8	26%	22	73%
Control Group	3	10%	27	90%

Out of 30 ovarian cancer patients, 8 patients (26%) had history of medication during pregnancy and 22 patients (73%) had no history of medication during pregnancy.

Out of 30 women of control group 3 women (10%) had history of medication during pregnancy and 27 patients (90 %) had no history of medication during pregnancy.

16.Graph showing association of medication for complications during pregnancy and risk of developing ovarian cancer

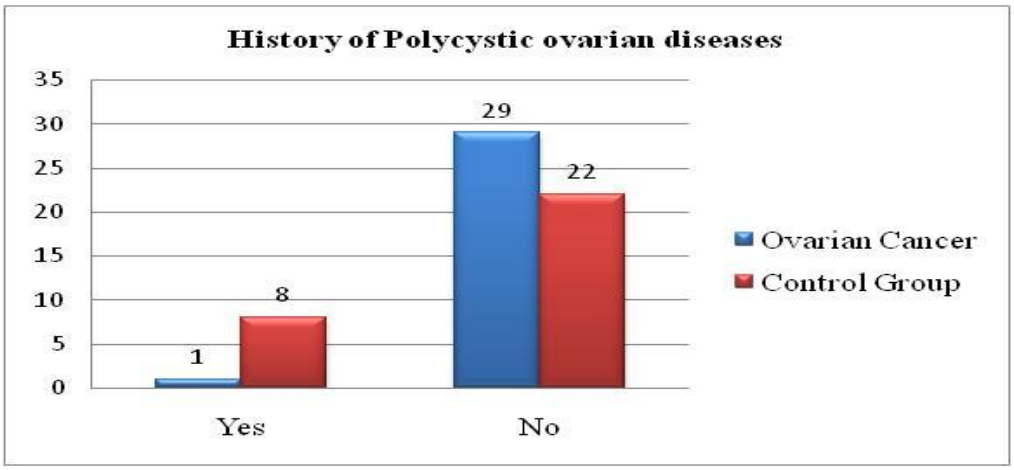


17. Table showing association of Polycystic Ovarian Diseases (PCOD) and risk of ovarian cancer

	Yes	%	No	%
Ovarian Cancer patients	1	3%	29	96%
Control Group	8	26%	22	73%

Out of 30 ovarian cancer patients, 1patient (3%) had history of polycystic ovarian diseases and 29 patients (96%) had no history of polycystic ovarian diseases. Out of 30 women of control group 8 women (26%) had history of polycystic ovarian diseases and 22 patients (73 %) had no history of polycystic ovarian diseases.

17.Graph showing association of Polycystic Ovarian Diseases (PCOD) and risk of ovarian cancer



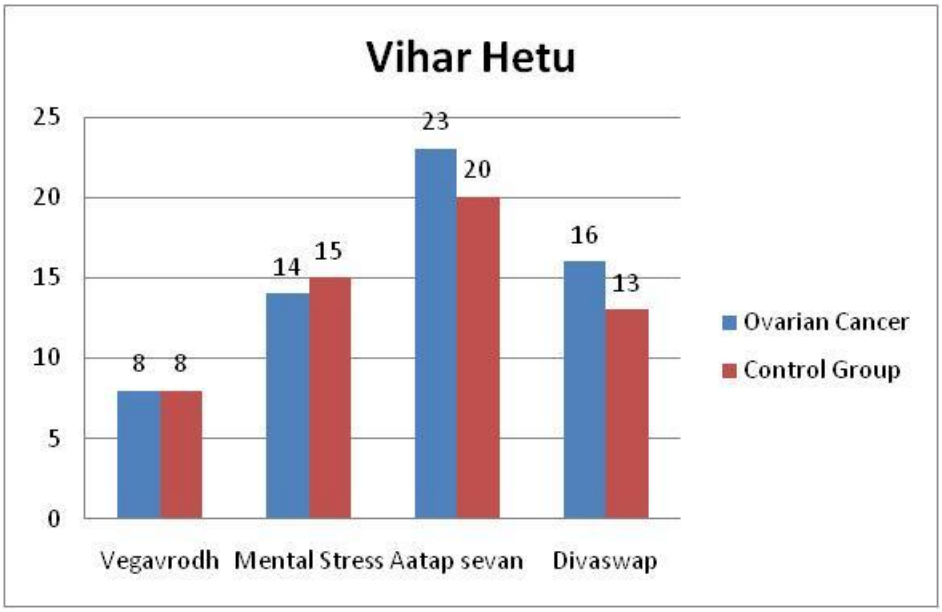
18. Table showing association of Viharhetu(wrong lifestyle) and risk of developing ovarian cancer

	Vegavarodh	%	Mental stress	%	Aatapsevan	%	Diwaswap	%
Ovarian Cancer patients	8	26%	14	46%	23	66%	16	53%
Control Group	8	26%	15	50%	20	76%	13	43%

Out of 30 ovarian cancer patients, 8 patients (26%) had history of Vegavarodha, 14 patients (46%) had history of mental stress,23 patients (66%) had history of Atapsevan and 16 patients (53%) had history of Diwaswap.

Out of 30 women of control group 8 women (26%) had history of Vegavrodha, 15 patients (50 %) had history of mental stress, 20 women (76%) had history of Aatapsevan and 16 women (53%) had history of Diwaswap.

18.Graph showing association of Viharhetu (wrong lifestyle) and risk of developing ovarian cancer



Discussion

Aartavvahasrotasa is a concept of female reproductive system described in Ayurveda. It comprises organs like Stree Bijanda (Ovaries), Garbhashayya (Uterus), Yoni (Vagina) and Yonimukha (Cervix). Aartava being upadhatu of Rasa, Rasadhatu plays an important role in functioning of organs of Aartavvahasrotasa. Similarly ApanaVayu is responsible for proper functioning of organs of Aartavavahasrotasa. Diseases caused due to Aartavahasrotasadushti mainly comprise Alpartav, Atyartav, Kashtartav, 20 Yonivyapada and cancers of ovary, uterus, vaginal and cervix.

Early or late onset of menarche and menopause, less or more interval between two menstrual cycles, scanty – excessive – painful menses, frequent miscarriages, nulliparity, leucorrhoea, PCOD are frequently observed conditions indicative of Aartavavahasrotodushti, even leading to malignancies of reproductive system. Various dietary factors, lifestyle related factors, long term use of contraceptives and hormones for conception, vigorous treatment for various diseases at pregnancy, family history of cancer are the risk factors of Asrtavvahasrotodushti and ultimately malignancies of reproductive organs including ovarian cancer. Thus these risk factors and symptoms were studied in this topic to assess their role in development of ovarian cancer.

1. **Discussion on Miscarriage and Medical termination of pregnancy as a risk factor of ovarian cancer -**
   According to Ayurvedic perceptive miscarriage is one of the outcomes of Aartavvahshrotodushti. Frequent medical termination of pregnancy leads to aartavvahstrotodushti as AgantuHetu.
   Our observation in this study also support above statement. Thus history of frequent miscarriages due to Aartavvahstrotodushti is considered to be one of the major risk factors in ovarian carcinoma.

2. **Discussion on parity as a risk factor of ovarian cancer -**
   Available research study do not indicate any association with nuliparity and primi parity as a single risk factor of ovarian cancer.On the other hand, multiparity is one of the major risk factors in cancer associated with reproductive system. In our study 16/30 patients of ovarian cancer had history of multiparity, while 13/30 women in control group were multiparous, which supports available literature study.

3. **Discussion on Leucorrheaasa risk factor of ovarian cancer**
   Leucorrhea is one of diseases of reproductive system mentioned in Charak Samhita as Somroga.
   As seen in our study Aartavvahstrotodushti in a form of leucorrhea is but obvious risk factor in ovarian cancer patients as compared to healthy women (control group).

4. **Discussion on age of menarcheas a risk factor of ovarian cancer**
   In our study, we have not observed any association of age of menarche and risk of ovarian cancer.

5. **Discussion on treatment for conception as a risk factor of ovarian cancer**
   Allopathic treatment for conception comprises hormonal treatment, which is a documented risk factor of ovarian cancer, if taken for long period.
   In our study we have not observed any association with long term used of hormonal treatment for the purpose of conception with risk of ovarian cancer.
   This observation may not be conclusive considering small group of study.

6. **Discussion on Contraceptivesas a risk factor of ovarian cancer**
   Charakacharya mentioned thirteen Adharniyvega. Retas veg is one of the thirteen Adharniyavega. Ayurveda prohibits withholding and forceful elimination of Adharniyvega. Use of contraceptives is considered as retasvegavarodh leading to vitiation of Apanvayu and aartavvahstrotodushti.
   In our study, we have observed that women who were using contraceptives in the form of oral contraceptives, Cu T and tubal ligation were more prone to ovarian cancer (47%).

7. **Discussion on duration of menstrual flow and associated aartavdushti as risk factors of ovarian cancer**
   Ayurveda considers shuddha raja which flows for minimum five days (per vaginal bleeding), which resembles blood of rabbit, insect Indragop and liquid shellac in colour and which does not stain after washing cloth. Menstrual flow for less than three day and less than quantity of 4 anjaliis considered as Alpartav, while menstrual flow for more than seven days and more than quantity of four anjali is considered as Atyartav. Vistra Gandh of Raktadhatu is considered as prakrutgandh of Raj while bad odour (Cadaveric smell) is said to be symptom of vikrutAartav. Similarly menstrual flow with clots is term as grathitaartav. It is also known as one of the Aartavdushti.

In our study alpartav (76%), Kunapagranthi (16%) and grathitartav (60%) are observed major risk factors for ovarian cancer.

8. **Discussion on family history of canceras a risk factors of ovarian cancer**

Ayurveda describes some diseases as Kulajvyadhi e.g. Arsh, Prameha, Kushth etc.
In modern medical science some types of Cancer like breast cancer, ovarian cancer, colorectal cancer, retinoblastoma etc. are known to have familial history.
As ovarian cancer is one such disease, we tried to study family history of cancer in this study.
It is observed that patients having family history of cancer are at high risk of developing ovarian cancer.
Family history of cancer in sibling and first degree relative is an evident risk factor as compared to family history of cancer in second degree relatives while studying in ovarian cancer patients.

9. **Discussion on Viharhetu as a risk factor of ovarian cancer**

While studying risk factor like vegavrodh and menstrual stress, we have not observed major difference in two groups. Study on large cohort is needed to come to a conclusion.
Qualities of Aartav are described as "AartavUshnam" in Ayurvedic text. According to SamanyaShidhant frequent and long term Aatapsevan increases ushna gun leading to Aartavdushti. In our study we have also observed Aatapsevan asimpotant risk factor in ovarian cancer.
Diwaswap is associated with KaphaPitta dushti, Jatharagni and Rasdhatudushti. Aartav being updhatu of Rasdhatu, gets vitiated due to frequent habit of diwaswap. This pathophysiology becomes the risk factor of ovarian cancer.
In our study we observed diwaswap is an important risk factor for ovarian cancer while compared with control group.

Conclusion

1. Aplartav (scanty menses), Kunapagranthiartav (cadaveric smell of menstrual bleeding), Grathitartav (clotted menstrual bleeding) and Shwetapradar (Leucorrhoea) are the conditions associated with Aartavvahasrotodushti, which are thus the major risk factors of ovarian cancer.
2. Long term use of contraceptives in the form of oral hormonal pills, Cu T, tubal ligation lead to Aartavvahasrotodushti which ultimately becomes a risk factor for developing ovarian cancer.
3. Frequent miscarriages are indicative of Aartavvahasrotodushti, while frequent attempts of MTP cause dushti of Aartavvahasrot as, which in turn becomes a risk factor of ovarian cancer.
4. Family history of cancer in siblings and first degree relatives is an evident risk factor of ovarian cancer
5. Sedentary lifestyle in terms of Diwaswap is also a major risk factor in developing ovarian cancer

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1.2	प्रीणनं जीवनं लेपः स्नेहो धारणपूरणे । गर्भोत्पादश्च कर्माणि धातूनां कथितानि हि ।।	भा.प्र. गर्भप्रकरण १५५
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	इंद्रगोपसंकाशम् आर्तवं शुध्दमादिशेत् ।।	
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3.6	अपत्यपथे चतस्त्रः तासां प्रसृतेऽभ्यन्तरतो व्दे, मुखाश्रिते बाह्ये च वृत्ते व्दे गर्भच्छिद्रसंश्रितास्तिस्त्रः, शुक्रार्तवप्रवेशिन्यस्तिस्त्र एव ।	सु. शा. ५/५०
3.7	पुसां पेश्यः पुरस्ताद्याः प्रोक्ता लक्षणमुष्कजाः । स्त्रीणामावृत्य तिष्ठन्ति फलमन्तर्गतं हि ताः ।।	सु. शा. ५/५३
3.8	अधोभागमास्तु वातमूत्रपुरीषशुक्रार्तवादीन्यधोवहन्ति।..... .....ते एव रक्तमभिनहतो विसृजतश्च नारीणामार्तवसंज्ञम्....।	सु. शा. ९/७
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3.11	स्त्रीणां पित्तपक्वाशययोर्मध्ये गर्भाशयोऽष्टमः ।	अ. सं. शा. ५/४६
3.12	स्त्रीणां तु बस्तिपार्श्वगतो गर्भाशयः सन्निकृष्टः।	सु. चि. ७/३३
3.13	शङ्खनाभ्याकृतिर्योनिस्त्र्यावर्ता सा प्रकीर्तिता । तस्यास्तृतीये त्वावर्ते गर्भशय्या प्रतिष्ठिता ।। यथा रोहितमत्स्यस्य मुखं भवति रुपतः । तत्संस्थानां तथारूपां गर्भाशय्या विदुर्बुधाः ।।	सु. शा. ५/५५ – ५६
3.14	योनिस्तु शङ्खनाभ्याकृतिख्यावर्ता तस्यास्तृतीय आवर्ते पित्तपक्वाशयान्तरे रोहितमत्स्यमुखाकारा गर्भशय्या । तस्यां शुक्रार्तवप्रवेशिन्यस्तिस्त्रः पेश्यः ।।	अ. सं. शा ५/५७
4.1	वृद्धा दोषा अनियत देशे मांसभिप्रदुष्य ग्रन्थिसदृश्यमुत्सेधं कुर्वन्ति ।। अस्य अधिष्ठानं रोहिणी नाम त्वक् ।।	सु.शारीर स्थान ४/४
4.2	गात्रप्रदेशे क्वचिदेव दोषाः संमूर्च्छिता मांसमभिप्रदूष्य। वृत्तं स्थिरं मन्दरुजं महान्तमनल्पमूलं चिरवृध्यपाकम् ।।	सु.नि.११ /१३-१४

	कुर्वन्ति मांसोपचयं तु शोफं तदर्बुदं शास्त्रविदो वदन्ति।	
4.3	उत्सेधप्रधान :।	च.सू.१८/३३
4.4	चक्रपाणिमतेन वर्तुलोन्नतम् ।	च.शा.४/१०
4.5	महत्तु ग्रन्थिऽतो अर्बुदम् ।	अष्टांगहृदय उत्तरस्थान २९/ १५
4.6	शाखा रक्तादयस्त्वक् च बाह्यरोगायनं हि तत् । तदाश्रया मषव्यंग्डगण्डालज्यर्बुदादय : ।।बहिर्भागाश्च दुर्नामगुल्फशोकादयो गदा :।।	अष्टांगहृदय सू. १२/४४-४५
4.7	वातेन पित्तेन कफेन चापि रक्तेन मांसेन च मेदसा च । तज्जायते तस्य च लक्षणानि ग्रन्थे : समानानि सदा भवन्ति । तल्लक्षणं च मेदोन्तः षोढा दोषादिभिस्तु तत् ।। षड्विधं स्यात्तर्थाबुदम् । वातात्पितात्कफाद्रक्तान्मांसादपि च मेदसः।	सु.नि.११/ १४ अष्टांगहृदय उत्तरस्थान अ.२९/ १५ शारंगधर संहिता खंड १ / ७/ ६९
4.8	आयम्यते व्यथत एति तोदं प्रत्यस्यते कृत्यत इति भेदम् ।कृष्णो ऽ मृदू बस्तिरिवाततश्च भिन्न : स्त्रवेच्चानिलजोस्त्रमच्छम् ।	सु.नि.११/ ४
4.9	दन्दह्यते धूप्यति चूष्यते च पापच्यते प्रज्वलतीव चापि । रक्त : सपीतोप्यथवाऽपि पित्ताद्भिन्नः स्त्रवेदुष्णमतीव चास्त्रम ।	सु.नि.११/ ५
4.10	शीतोऽविवर्णोऽल्परूजोऽतिकण्डू:पाषाणवत्संहननौपपन्नः। चिराभिवृद्धिश्च कफप्रकोपाद् ,भिन्नः स्रवेच्छुक्लघनं च पूयम् ।	सु.नि.११/ ६
4.11	दोषः प्रदुष्टो रूधिरं सिरास्तु सम्पीडय संकोच्य गतस्त्वपाकम् । सास्त्रावमुन्नह्यति मांसपिण्डं मांसाकुरैराचितमाशुवृद्धिम् । स्त्रवत्यजस्त्रं रूधिरं प्रदुष्टमसाध्यमेतद्रुधिरात्मकं स्यात् । रक्तक्षयोपद्रवपीडितत्वात् पाण्डर्भवेत् सोऽर्बुदपीडितस्तु ।।	सु.नि.११/१५-१६ माधवनिदान व्दितीय खंड ३८/२०- २१ भावप्रकाश मध्यखंड अर्बुदाधिकार २३ - २४
4.12	मुष्टिप्रहारादिभिरर्दितेऽ ड्गे; मांसं प्रदुष्टं प्रकरोति शोफम् । अवेदनं स्निग्धमनन्यवर्णमपाकमश्मोपममप्रचाल्यम ।। प्रदुष्ट मांसस्य नरस्य बाढमेतद्भवेन्मांसपरायणस्य ।	सु.नि.११/१७ - १८ माधवनिदान व्दितीय खंड ३८/२२-२३ भावप्रकाश मध्यखंड अर्बुदाधिकार २५
4.13	शरीरवृद्धिक्षयवृद्धिहानिः स्निग्धो महानल्परूजोऽतिकण्डूः । मेद:कृतो गच्छति चात्र भिन्ने पिण्याकसर्पिः प्रतिमं तु मेदः ।।	सु.नि.११/ ६
4.14	सिरास्यं शोणितं दोषः ----------। पाचतेत्	अष्टांगहृदय

	तदातदधं सास्त्रावं मांसपिण्डितम् ।। मांसाकुरै आश्रितं याति वृद्धि चाशु स्त्रवेत्तेतः। अजस्त्रंदुष्ट रूधिरं भूरि तच्छोणितार्बुदम् ।	उत्तरस्थान २९/१६ – १७
4.15	प्राप्य मांससिरास्नायु श्लेष्मा मेदस्तथाऽनिलः। ग्रन्थिं कुर्वन्तिं भिन्नाऽसौ मधुसर्पिर्वसानिभम् ।। स्त्रवत्यास्नावमत्यर्थं तत्र वृद्धिं गतोऽनिलः।। मांसं विशोष्य ग्रथितां शर्करा जनयेत् पुनः।दुर्गन्धं क्लिन्नमत्यर्थं नानावर्ण ततः सिराः। स्त्रवन्ति सहसा रक्तं तद्विद्याच्छर्करार्बुदम् ।।	सु.नि.१३/२५-२७
4.16	मांसार्बुद त्वेतदसाध्यमुक्तं साध्येष्वपीमानि विवर्जयेत्तु । संप्रस्त्रुतं मर्मणि यच्च जातं स्त्रोतःसु वा यच्च भवेदचाल्यम् ।।	सु.नि.११/१९
4.17	तेषासृड्.गमांसजे वर्ज्ये चत्वार्यन्यानि साधयेत् ।।	अष्टांगह्रदय उत्तरस्थान २९/ १८
4.18	न पाकमायन्ति कफाधिकत्वान्मेदोऽधिकत्वाच्च विशेषतस्तु । दोषस्थिरत्वाद् ग्रथनाच्च तेषां सर्वार्बुदान्येव निसर्गतस्तु ।।	सु.नि.११/ २१ माधवनिदान व्दितीय खंड ३८/३८ भावप्रकाश मध्यखंड अर्बुदाधिकार २९
4.19	प्रायो मेदाकफाढयत्वास्थिरत्वाच्च न पच्यते ।	अष्टांगह्रदय उत्तरस्थान २९/ १५
4.20	यज्जायते ऽन्यत् खलु पूर्वजाते ज्ञेयं तदध्यर्बुदमर्बुदज्ञैः । यद्वदन्दजातं युगपत् क्रमादा व्दिरर्बुदं तच्च भवेदसाध्यम्	सु.नि.११/ २० माधवनिदान व्दितीय खंड ३८/२५ भावप्रकाश मध्यखंड अर्बुदाधिकार २८
5.1	आर्तवमपि र्तिभिर्दोषैः शोणितचतुर्थैः पृथग्व्दन्व्दैः समस्तैश्चोपसृष्टमबीजं भवति; तदपि दोषवर्णवेदनाऽऽदिभिर्विज्ञेयम् । तेषु कुणपग्रन्थि - पूति - पूय - क्षीण - मूत्र - पुरीषप्रकाशमसाध्यं साध्यमन्यच्चेति ।।	सु. शा. २/५
5.2	आर्तवमपि शुक्रवद्दोषैरुपसंसृष्टमबीजमेव । तस्य लिग्ङं नाम च पूर्ववत । तेषु कुणपग्रन्थिपूयक्षीणरेतांसि कृच्छ्रसाधनानि । मूत्रपिरीषशूक्रार्तवं त्वसाध्यं कुणपग्रन्थिपूयार्तवं वा ।।	अ. सं. शा. १/२५
5.3	रक्तेन कुणपं श्लेष्मवाताभ्यां ग्रन्थिसन्निभम् । पूयाभं रक्तपित्ताभ्यां क्षीणं मारुतपित्ततः ।। कृच्छ्रण्येतान्यसाध्यं तु त्रिदोषं मूत्रविट्प्रभम् ।	अ. ह्र. शा. १/११ अ. ह्र. शा. १/१२
5.4	अतिप्रसग्ङेनानृतावृतौ वा तदेवासृग्दरं प्रदरं व्यापदं च	अ. सं. शा. १/११

	रक्तयोनिसंज्ञा लभते ।।	
5.5	तदेवातिप्रसग्डेन प्रवृत्तमनृतावपि । असृग्दरं विजानीयादतोऽन्यद्रक्तलक्षणात् ।।	सु. शा. २/२०
5.6	विरुध्दमद्याध्यशनादजीर्णाद् गर्भप्रपातादतिमैथुनाच्च । यानाध्वशोकादतिकर्षणाच्च भाराभिघाताच्छ्यनाद्दिवा च ।	असृग्दरनिदानम् ६१, १/१, ॠ
5.7	तं श्लेष्मपित्तानिलसन्निपातैश्चतुष्प्रकारं प्रदरं वदन्ति ।	असृग्दरनिदानम्६१, १/३
5.8	असृग्दरं भवेत् सर्वं साङ्गमर्दं सवेदनम् ।	(सु. शा. २, १९/१) असृग्दरनिदानम्६१, २/१
5.9	तस्यातिवृतौ दौर्बल्यं भ्रमो मूर्च्छा मदसहतृषा । दाहः प्रलापः पाण्डुत्वं तन्द्रा रोगाश्च वातजाः ।।२।।	(सु. शा. २, १९/२, २०/१) असृग्दरनिदानम्६१, २/२, २/३
5.10	आमं सपिच्छाप्रतिमं सपाण्डु पुलाकतोयप्रतिमं कफात्तु ।	असृग्दरनिदानम्६१, ३/१
5.11	सपीतनीलासितरक्तमुष्णं पित्तातियुक्तं भृशवेगि पित्तात्।।३।।	असृग्दरनिदानम्६१, ३/२
5.12	रुक्षारुणं फेनिलमल्पमल्पं वातातिं वातात् पिशितोदकाभम्।	असृग्दरनिदानम्६१, ४/१
5.13	सक्षौद्रसर्पिर्हरितालवणं मज्जप्रकाशं कुणपं त्रिदोषात् ।।४।।	असृग्दरनिदानम्६१, ४/२
5.14	दोषैरावृतमार्गत्वादार्तवं नश्यति स्त्रियः ।	सु. शा. २/२३
5.15	दिवास्वप्नादतिक्रोधाद् व्यायामादतिमैथुनात् । क्षताच्च नखदन्ताद्यैर्वाताद्याः कुपिता यदा ।।१।। पूयशोणितसंकाशं निकुचाकृतिसंनिभम् । जनयन्ति यदा योनौ नाम्ना कन्दः स योनिजः ।।२।।	असृग्दरनिदानम्६३, १,२
5.16	रुक्षं विवर्णं स्फुटितं वातिकं तं विनिर्दिशेत् ।	असृग्दरनिदानम्६३, ३,१
5.17	दाहरागज्वरयुतं विद्यात् पित्तात्मकं तु तम् ।।३।।	असृग्दरनिदानम्६३, ३,२
5.18	नीलपुष्पप्रतीकाशं कण्डूमन्तं कफात्मकम् ।	असृग्दरनिदानम्६३, ४,१
5.19	सर्वलिङ्गसमायुक्तं सन्निपातात्मकं विदुः ।।४।।	असृग्दरनिदानम्६३, ४.२

6.1	मिथ्याचारेण ताः स्त्रीणां प्रदुष्टेनार्तवेन च । जायन्ते बीजदोषाच्च दैवाच्च श्रृणु ताः पृथक् ।।	च. चि. ३०
6.2	वातलाहारचेष्टाया वातलायाः समीरणः । विवृध्दो योनिमाश्रित्य योनेस्तोदं सवेदनम् ।। स्तम्भं पिपीलिकासृप्तिमिव कर्कशतां तथा । करोति सुप्तिमायासं वातजांश्चापरान् गदान् ।। सा स्यात् सशब्द रुक्फेनतनुरुक्षार्तवाऽनिलात् ।	च. चि. ३०/ ९ – १०
6.3	व्यापत्कट्वम्ललवणक्षाराद्यै पित्तजा भवेत् ।। दाहपाकज्वरोष्णार्ता नीलपीतासितार्तवा । भृशोष्णकुणपस्त्रावा योनिः स्यात्पित्तदूषिता ।।	च. चि. ३०/ ११ – १२
6.4	कफोऽभिष्यन्दिभिर्वृध्दो योनिं चेद् दूषयेत् स्त्रियाः । स कुर्यात् पिच्छिलां शीतां कण्डुग्रस्ताल्पवेदनाम् ।। पाण्डुवर्णा तथा पाण्डुपिच्छिलार्तववाहिनीम् ।	च. चि. ३०/ १३
6.5	समश्नन्त्या रसान् सर्वान् दूषयित्वा त्रयो मलाः ।। योनिगर्भाशयस्थाः स्वैर्योनिं युञ्जन्ति लक्षणैः । सा भवेद्दाहशूलार्ता श्वेतपिच्छिलवाहिनी ।।	च. चि. ३०/ १४ – १५
6.6	रक्तपित्तकरैर्नार्या रक्तं पित्तेन दूषितम् । अतिप्रवर्तते योन्यां लब्धे गर्भेऽपि सासृजा	।। च. चि ३०/ १६
6.7	योनिगर्भाशयस्थं चेत् पित्तं सन्दूषयेदसृक् । साऽरजस्का मता कार्श्यवैवर्ण्यजननी भृशम् ।।	च. चि ३०/ १७
6.8	योन्यामधावनात् कण्डूं जाताः कुर्वन्ति जन्तवः । सा स्यादचरणा कण्ड्वा तयाऽतिनरकाङ्क्षिणी ।।	च. चि ३०/ १८
6.9	पवनोऽतिव्यवायेन शोफसुप्तिरुजः स्त्रियाः । करोति कुपितो योनौ सा चातिचरणा मता ।।	च. चि ३०/ १९
6.10	मैथुनादतिबालायाः पृष्ठकट्यूरुवङ्क्षनम् । रुजन् दूषयते योनिं वायुः प्राक्चरणा हि सा ।।	च. चि. ३०/२०
6.11	गर्भिण्याः श्लेष्मलाभ्यासाच्छर्दिनिःश्वासनिग्रहात् । वायुः क्रुध्दः कफं योनिमुपनीय प्रदूषयेत् ।। पाण्डुं सतोदमास्त्रावं श्वेतं स्त्रवति वा कफम् । कफवातामयव्याप्ता सा स्याद् योनिरुपप्लुता ।।	च. चि. ३०/२१, २२
6.12	पित्तलाया नृसंवासे क्षवथूद्गारधारणात् । पित्तसम्मूर्छितो वायुर्योनि दूषयति स्त्रियाः ।। शूना स्पर्शाक्षमा सार्तिर्नीलपीतमसृक् स्त्रवेत् । श्रोणिवङ्क्षणपृष्ठार्तिज्वरार्तायाः परिप्लुता ।।	च. चि. ३०/२३, २४
6.13	वेगोदावर्तनाद् योनिमुदावर्तयतेऽनिलः। सा रुगार्ता रजः कृच्छ्रेणोदावृत्तं विमुञ्चति ।।	च. चि. ३० /२५ – २६

	आर्तवे सा विमुक्ते तु तत्लक्षणं लभते सुखम् । रजसो गमनादूर्ध्व ज्ञेयोदावर्तिनी बुधैः।।	
6.14	अकाले वाहमानाया गर्भेण पिहितोऽनिलः । कर्णिकां जनयेद् योनौ श्लेष्मरक्तेन मूर्च्छितः ।। रक्तमार्गावरोधिन्या सा तया कर्णिनि मता ।	च. चि. ३०/२७
6.15	रौक्ष्याद् वायुर्यदा गर्भ जातं जातं विनाशयेत् ।। दुष्टशोणितजं नार्याः पुत्रघ्नी नाम सा मता ।	च. चि. ३०/२८
6.16	व्यवायमतितृप्ताया भजन्त्यास्त्वन्नपीडितः ।। वायुर्मिथ्यास्थिताग्ङाया योनिस्त्रोतसि संस्थितः । वक्रयत्याननं योन्याः साऽस्थिमांसानिलार्तिभिः ।। भृशार्तिर्मैथुनाशक्ता योनिरन्तर्मुखी मता ।।	च. चि. ३०/२९ – ३०
6.17	गर्भस्थायाः स्त्रिया रौक्ष्याद् वायुर्योनिं प्रदूषयन् ।। मातृदोषादणुव्दारां कुर्यात् सूचीमुखी तु सा ।।	च. चि. ३०/३१
6.18	व्यवायकाले रुन्धन्त्या वेगान् प्रकुपितोऽनिलः ।। कुर्याद् विण्मूत्रसग्ङार्ति शोषं योनिमुखस्य च ।	च. चि. ३०/३२
6.19	षडहात् सप्तरात्राद् वा शुक्रं गर्भाशयं गतम् ।। सरुजं नीरुजं वाऽपि या स्त्रवेत् सा तु वामिनी ।	च. चि. ३०/३३
6.20	बीजदोषात् तु गर्भस्थमारुतोपहताशया ।। नृव्देषिण्यस्तनी चैव षण्ढी स्यादनुपक्रमा ।	च. चि. ३०/३४
6.21	विषमं दुःखशय्यायां मैथुनात् कुपितोऽनिलः ।। गर्भाशयस्य योन्याश्च मुखं विष्टम्भयेत् स्त्रियाः । असंवृतमुखी सार्ती रुक्षफेनास्त्रवाहिनी ।। मांसोत्सन्ना महायोनिः पर्ववङ्क्षणशूलिनी ।	च. चि. ३०/३५ – ३६
6.22	योनिरोग निदान व संम्प्राप्ति प्रवृध्दलिग्ङं पुरुषं याऽत्यर्थमुपसेवते । रुक्षदुर्बलबालाया तस्या वायुःप्रकुप्यति।। स दुष्टो योनिमासाद्य योनिरोगाय कल्पते ।।३।। दोष संबंध व संख्या संम्प्राप्ति त्रयाणामपि दोषाणां यथास्वं लक्षणेन तु । विंशतिर्व्यापदो योनेर्निर्दिष्टा रोगसंग्रहे ।।४।। योनिरोग हेतु मिथ्याऽऽचारेण याः स्त्रीणां प्रदुष्टेनार्त्तवेन च । जायन्ते बीजदोषाच्च दैवाच्च श्रृणु ताः पृथक् ।।५।।	सु. उत्तरतंत्र ३८
6.23	सदोषयोनिरोगनाम उदावर्ता तथा बन्ध्या विप्लुता च परिप्लुता । वातला चेति वातोत्थाः, पित्ताोत्था रुधिरक्षरा ।।६।।	सु. उत्तरतंत्र ३८

	वामिनी स्रंसिनी चापि पुत्रध्नी पित्तला च या । अत्यानन्दा च या योनिः कर्णिनी चरणाव्दयम् ।।७।। श्लेष्मला च कफाज्ज्ञेया षण्डाख्या फलिनी तथा । महती सूचिवक्त्रा च सर्वजेति त्रिदोषजा ।।८।।	
6.24	वातज पञ्चयोनिरोग लक्षण सफेनिलमुदावर्ता रजः कृच्छ्रेण मुञ्चति ।।९।। बन्ध्यां नष्टार्त्तवां विद्व्याव्दिप्लुतां नित्यवेदनाम् । परिप्लुतायां भवति ग्राम्यधर्मे रुजा भृशम् ।।१०।। वातला कर्कशा स्तब्धा शूलनिस्तोदपीडिता । चतसृष्वपि चाद्यासु भवन्त्यनिलवेदनाः ।।११।।	सु. उत्तरतंत्र ३८
6.25	पित्तज योनिरोग लक्षण सदाहं प्रक्षरत्यस्त्रं तस्यां सा लोहितक्षरा । सवातमुग्दिरेव्दीजं वामिनी रजसा युतम् ।।१२।। प्रस्रंसिनी स्यन्दते तु क्षोभिता दुःप्रसूश्च या । स्थितं स्थितं हन्ति गर्भं पुत्रध्नी रक्तसंस्रवा ।।१३।। अत्यर्थं पित्तला योनिर्दाहपाकज्वरान्विता । चतसृस्वपि चाद्यासु पित्तलिग्डोच्छ्रयो भवेत् ।।१४।।	सु. उत्तरतंत्र ३८
6.26	श्लेष्मजन्यपञ्चयोनिरोग लक्षण अत्यानन्दा न सन्तोषं ग्राम्यधर्मेण गच्छति । कर्णिन्यां कर्णिका योनौ श्लेष्मासृग्भ्यां प्रजायते ।।१५।। मैथुनेऽचरणा पूर्वं पुरुषादतिरिच्यते । बहुशश्चातिचरणादन्या बीजं न विन्दति ।।१६।। श्लेष्मला पिच्छिला योनिःकण्डूयुक्ताऽतिशीतला । चतसृष्वपि चाद्यासु श्लेष्मलिग्डोच्छ्रितिर्भवेत् ।।१७।।	सु. उत्तरतंत्र ३८
6.27	सन्निपातिकपञ्चयोनिरोग लक्षण अनार्त्तवस्तना षण्डी खरस्पर्शा च मैथुने। अतिकायगृहीतायास्तरुण्याः फलिनी भवेत् ।।१८।। विवृताऽतिमहायोनिः सूचीवक्त्राऽतिसंवृता । सर्वलिग्डसमुत्थाना सर्वदोषप्रकोपजा ।।१९।। चतसृष्वपि चाद्यासु सर्वलिग्डोच्छ्रितिर्भवेत् । पञ्चासाध्या भवन्तीमा योनयः सर्वदोषजाः ।।२०।।	सु. उत्तरतंत्र ३८
6.28	योनिव्यापद् हेतु विंशतिर्व्यापदोयोनेर्जायन्ते दुष्टभोजनात् । विषमस्थाग्डशयनभृशमैथुनसेवनैः ।।३२।। दुष्टार्तवादपद्रव्यैर्बीजदोषेण दैवतः ।	अ. सं. उत्तरतंत्र ३७

6.29	वातिकी योनौ क्रुध्दोऽनिलः कुर्याद्रुक्तोदायामसुप्तताः । पिपीलिका सृप्तिमिव स्तम्भं कर्कशता स्वनम् ।। फेनिलारुणकृष्णाल्पतनु रुक्षार्तवस्त्रुतिग् । भ्रंशं वङ्क्षणपार्श्वादौ व्यथां गुल्मं क्रमैण च ।।३३।। तां स्तां श्च स्वान् गदान् व्यापव्दातिकीनाम सा स्मृता ।	अ. सं. उत्तरतंत्र ३७
6.30	अतिचरणा सैवातिरणा शोफसंयुक्तातिव्यवायतः । ३४।।	अ. सं. उत्तरतंत्र ३७
6.31	प्राक्चरणा मैथुनादतिबालायाः पृष्ठजंघोरुवङक्षणम् । रुजन् सन्दूषयेद्योनिं वायुः प्राक्चरणेति सा ।।३५।।	सु. उत्तरतंत्र ३८
6.32	उदावृता वेगोदावर्तनाद्योनिं प्रपीडयतिमारुतः । सा फेनिलं रजः कृच्छ्रादुदावृत्तं विमुञ्चति ।।३६।। इयं व्यापदुदावृत्ता -	अ. सं. उत्तरतंत्र ३७
6.33	जातघ्नी ------- जातघ्नी तु यदानिलः । जातं जातं सुतं हन्ति रौक्ष्याद् दुष्टार्तवोद्भवम् ।	अ. सं. उत्तरतंत्र ३७
6.34	अन्तर्मुखी अत्याशिताया विषमं स्थिताया: सुरते मरुत् । अन्नेनोल्पीडीतो योनेः स्थितः स्त्रोतसिवक्रयेत् ।।३८।। सास्थिमांसं मुखं तीव्ररुजमन्तर्मुखीति सा ।	अ. सं. उत्तरतंत्र ३७
6.35	सूचिमुखी वातळाहारसेविन्यां जनन्यां कुपितोनिलः । स्त्रिया योनिमणव्दारां कुर्यात् सूचिमुखीति सा ।। ३९।।	अ. सं. उत्तरतंत्र ३७
6.36	शुष्का वेगरोधादृतौ वायुर्दुष्टो विण्मूत्रसङ्घहम् । करोति योनि शोषं च शुष्काख्या साति वेदना ।।४०।।	अ. सं. उत्तरतंत्र ३७
6.37	वामिनी षडहात् सप्तरात्राव्दा शुक्लं गर्भाशयान्मरुत् । वमेत् सरुङ्नीरुजो वा यस्यांसा वामिनीमता ।।४१।।	अ. सं. उत्तरतंत्र ३७
6.38	षण्ड तोनौ वातोपतप्तायां स्त्रीगर्भे बीजदोषतः । नृव्देषिण्यस्तनी च स्यात् षण्डसंज्ञानुपक्रमा ।।४२।।	अ. सं. उत्तरतंत्र ३७
6.39	महायोनि दुष्टो विष्टभ्ययोन्यास्यं गर्भकोष्ठं च मारुतः ।	अ. सं. उत्तरतंत्र ३७

	कुरुते विवृतां स्त्रस्तां वातिकीमिव दुःखिताम् ।। ४३ ।। उत्सन्नमांसा तामाहुर्महायोनिं महारुजम् ।।	
6.40	पैत्तिकी यथा स्वैर्दूषणैर्दयष्टं पित्तं योनि समाश्रितम् । करोति दाहपाकोषा पूतिगन्धज्वरान्विताम् ।।४४।। भृशोष्णभूरिकुणपनीलपीतासितार्तवाम् । सा व्यापत् पैत्तिकी---	सु. उत्तरतंत्र ३८
6.41	रक्तयोनि रक्तयोन्याख्या सृगति स्त्रुतेः ।।४५।।	अ. सं. उत्तरतंत्र ३७
6.42	श्लैष्मिकी कफोभिष्यन्दिभिः क्रुध्दः कुर्याद्योनिमवेदनाम् । शीतळां कण्डुलां पाण्डु पिच्छलां तद्विधस्त्रुतिम् ।।४६।। सा व्यापच्छ्लैष्मिकी--	अ. सं. उत्तरतंत्र ३७
6.43	लोहितक्षया ---वातपित्ताभ्यां क्षीयते रजः । स दाहकार्श्यवैवर्ण्यं यस्यां सा लोहितक्षया ।।४७।।	अ. सं. उत्तरतंत्र ३७
6.44	परिप्लुता पित्तळाया नृसंवासेक्षवथूद्गारधारणात् । पित्तयुक्तेन मरुता योनिर्भवति दूषिता।। शूना स्पर्शसहासार्तिर्नीलपीतास्त्रवाहिनी। बस्ति कुक्षि गुरुत्वातिसारारोचककारिणी । श्रोणिवङ्क्षणरुक्तोदज्वरकृत्सा परिप्लुता ।।४८।।	अ. सं. उत्तरतंत्र ३७
6.45	उपप्लुता वातश्लेष्मामयव्याप्ता श्वेतपिच्छिलवाहिनी।४९।। उपप्लुतास्मृता योनिः ----	अ. सं. उत्तरतंत्र ३७
6.46	विप्लुता ----विप्लुताख्यात्वधावनात् । सञ्जातजन्तुः कण्डूला कण्ड्वाचातिरतिप्रिया ।।५०।।	अ. सं. उत्तरतंत्र ३७
6.47	कर्णिनी अकालवाहनाव्दायुः श्लेष्मरक्तविमूर्च्छितः । कर्णिकां जनयेद्योनौ रजोमार्गनिरोधिनीम् ।।५१।।	अ. सं. उत्तरतंत्र ३७
6.48	सान्निपातिकी ---त्रिभिर्द्दोषैर्योनोगर्भाशयाश्रितैः । यथास्वोपर्दवकरै र्व्यापत् सा सान्निपातिकी ।।५२।।	अ. सं. उत्तरतंत्र ३७

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Subject – To study the role of Aartavvah Strotodushti as a risk factor in ovarian carcinoma

Name:

Sex: Age: Religion:

Address:

Occupation:

Consent Form for Research Study

During this study, you will be asked to complete a number of brief questionnaires concerning with factors such as gynecological & obstetrical history.

You will also be asked for some demographic information (gender, age, etc). Your participation will require approximately 1 hours of your time.

There are no known harms associated with your participation in this research. All records of participation will be kept strictly confidential.

The results from this study will be reported in a written research report and an oral report during a class presentation. Information about the project will not be made public in any way that identifies individual participants. Participation is completely voluntary. It may be discontinued at any time for any reason without explanation and without penalty.

I have read the above form, understand the information read, understand that I can ask questions or withdraw at any time. I consent to participate in this research study.

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Participant's signature Witness signature Investigator's signature

Date ----------

CASE RECORD FORM

Date: - **Study No:-**

Name:-

Address-

Age/Sex: - **Occupation:-**

Diagnosis-

Date of Original Diagnosis:- **Age During Diagnosis:-**

HPR / USG:-

Previous surgical / Medical / Trauma history

Current any medical history

Physical Examination-

Pulse:-	**B.P.:-**	**Wt:-**
Mutra:-	**Mala :-**	**Jivha :-**
Shabda :-	**Sparsha :-**	**Aakruti :-**
Satva :-	**Prakruti :-**	**Nidra :-**
Koshta :-	**Agni :-**	

P/A Examination: -

CASE RECORD FORM

१) रक्ताच्या नात्यामध्ये कोणाला कॅन्सरचा त्रास आहे का ?

१) होय २) नाही

२) असल्यास, पुढीलपैकी कोणाला व कोणता आहे ?

१) आजी / आजोबा २) मावशी / मामा / काका / आत्या

३) आई / वडील ४) भाऊ / बहीण ५) मुलगा / मुलगी

३) पहिली मासिकपाळी वयाच्या कितव्या वर्षी आली ?

१) ≤९ वर्षे २) १० ते १५ वर्षे ३) १६ वर्षे ≤

४) मासिकपाळी किती दिवसांनी येते ?

१) १० ते २१ दिवसांनी २) २१ ते ३५ दिवसांनी ३) ≥३५ दिवसांनी ४) मासिकपाळी येत नाही

५) पुढीलपैकी कोणत्याकारणांनी मासिक पाळी येत नाही ?

१) नैसर्गिक रजोनिवृत्ती (Natural Menopause) २) गर्भाशयनिर्हरण शस्त्रक्रिया (hysterectomy)

३) केमोथेरपी (Chemotherapy)

६) मासिकपाळीसमयी किती दिवस रक्तस्त्राव होतो ?

१) १ ते २ दिवस २) ३ ते ७ दिवस ३) ८ ते १५ दिवस ४) १५ दिवसांपेक्षा जास्त

७) आपणास मासिकपाळीसाठी औषधे घ्यावी लागली आहेत का ?

१) क्वचित २) वारंवार ३) मुळीच नाही

८) आपणास कष्टार्तवासाठी औषधे घ्यावी लागतात का ?

१) क्वचित २) वारंवार ३) मुळीच नाही

९) आपणास कष्टार्तवासाठी कोणती औषधे घ्यावी लागतात ?

१) वेदनाशामक २) हॉरमोनाल

१०) आपणास कष्टार्तवासाठी औषधे किती दिवस घेत आहात ?

११) वयाच्या कितव्या वर्षी लग्न झाले ?

१२) आपणास अपत्य किती ?

१३) प्रसुती कशी झाली ?

१) प्राकृत प्रसव २) औषधाने वेदनारहित प्रसूति
३) गर्भशंकू (Forcep / Vaccum delivary) ४) वामदेवीय प्रसव (Cesarean section)

१४) आपला कधी गर्भस्त्राव झाला आहे का ?

१) कधीच नाही २) १ - २ वेळा ३) २ पेक्षा अधिकवेळा

१५) आपला कधी गर्भपात झाला आहे का ?

१) कधीच नाही २) १ - २ वेळा ३) २ पेक्षा अधिकवेळा

१६) आपणास गर्भस्त्राव / गर्भपात वेळी पुढीलपैकी त्रास झाला होता का ?

१) अत्यार्तव २) उदरशूल ३)

१७) आपणास गर्भधारणेसाठी चिकित्सा घ्यावी लागली का ?

१) नाही २) हार्मोनल चिकित्सा ३) IUI ४) IVF

१८) गर्भधारणेच्या काळात औषधी चिकित्सा घ्यावी लागली का ?

१) होय २) नाही

१९) कुटुंबनियोजनासाठी गर्भनिरोधक साधनांचा वापर केला होता का ?

१) नाही २) गर्भनिरोधक गोळ्या ३) कॉपर टी ४) पेसारी / जेली ५) शस्त्रकर्म

२०) गर्भनिरोधक साधनांच्या वापराने पुढीलपैकी कोणता त्रास झाला ?

१) मुळीच नाही २) अत्यार्तव ३) उदरशूल ४) अनियमित मासिक पाळी

२१) आपणास उन्हात फिरावे लागते का ?

१) मुळीच नाही २) रोज ३) कधीतरी

२२) आपण रोज व्यायाम करता का ?

१) मुळीच नाही २) रोज ३) आठवड्यातून एकदा ४) महिन्यातून एकदा

२३) आपणास व्यायामानंतर कसे वाटते ?

१) उत्साह वाटतो २) थोडा थकवा येतो ३) फारच थकवा येतो ४) काहीच फरक जाणवात नाही

२४) आपणास बीजग्रंथीगाठींचा त्रास होता का ?

१) होय २) नाही

२५) आपणास व्यसनांची सवय होती का ?

१) तंबाखू / पान २) प्रत्यक्ष / अप्रत्यक्ष धूम्रपान ३) मद्यपान ४) मुळीच नाही

२६) आपण दुपारी झोपता का ?

१) रोज २) कधीतरी ३) मुळीच नाही

२७) आपण दही खाता का ?

१) रोज २) कधीतरी ३) मुळीच नाही

२८) आपण सकाळी उठल्या उठल्या पाणी पिता का ?

१) थोडेसे २) १ ग्लास किंवा जास्त ३) मुळीच नाही

२९) आपण मल, लघवी इत्यादींचे वेग दाबून ठेवता का ?

१) होय २) नाही

३०) आपणास शारिरीक/ मानसिक/ आर्थिक/ कौटूंबिक/ व्यावसायिक स्वरुपाचा ताण आहे का ?

१) होय २) नाही

३१) आहारविषयक

	होय	नाही	कितीवेळा	किती प्रमाणात
केळी				
लोणचे				
पापड				
मीठ				
मिरची				
आले लसूण पेस्ट				
भटाटा				
कोशिंबीर				
तूरडाळ				
मूगडाळ				

CASE RECORD FORM

Q. No.		अजिबात नाही	थोडा	बराच	खूपच
३२.	मासिकपाळी समयी कंबर दुखते का ?	१	२	३	४
३३.	मासिकपाळी समयी पाठीत दुखते का ?	१	२	३	४
३४.	मासिकपाळी समयी पोटात दुखते का ?	१	२	३	४
३५.	मासिकपाळी समयी कामकाज अथवा इतर दैनंदिन व्यवहार करण्यावर काही बंधने आली होती का ?	१	२	३	४
३६.	मासिकपाळी समयी उलट्या होतात का ?	१	२	३	४
३७.	मासिकपाळी समयी जुलाब होतात का ?	१	२	३	४
३८.	मासिकपाळी समयी बध्दकोष्ठतेचा त्रास होतो का ?	१	२	३	४
३९.	मासिकपाळी समयी योनिप्रदेशी जळजळ होते का ?	१	२	३	४
४०.	मासिकपाळी समयी रक्ताच्या गाठी जातात का ?	१	२	३	४
४१.	मासिकपाळी समयी खराब वासाचा रक्तस्त्राव होतो का ?	१	२	३	४
४२.	मासिकपाळी समयी काळया रंगाचा रक्तस्त्राव होतो का ?	१	२	३	४
४३.	मासिकपाळी समयी लाल रंगाचा रक्तस्त्राव होतो का ?	१	२	३	४
४४.	मासिकपाळी समयी रक्तस्त्राव चिकट होतो का ?	१	२	३	४
४५.	मासिकपाळी समयी रक्तस्त्राव किती होतो का ?	१	२	३	४
४६.	आपणास गर्भनिरोधक साधनांच्या वापराने त्रास झाला का ?	१	२	३	४
४७.	आपणास श्वेतस्त्रावाचा त्रास होतो का ?	१	२	३	४
४८.	श्वेतस्त्रावास दुर्गंध असतो का ?	१	२	३	४
४९.	श्वेतस्त्राव पाण्यासारखा असतो का ?	१	२	३	४
५०.	श्वेतस्त्राव चिकट असतो का ?	१	२	३	४
५१.	श्वेतस्त्राव पिवळसर सफेद असतो का ?	१	२	३	४
५२.	श्वेतस्त्राव दह्यासारखा सफेद असतो का ?	१	२	३	४
५३.	श्वेतस्त्राव हिरव्यावर्णाचा असतो का ?	१	२	३	४

५४.	श्वेतस्त्रावावेळी कंबर दुखते का ?	१	२	३	४
५५.	श्वेतस्त्रावावेळी पोट दुखते का ?	१	२	३	४

	Master chart of Control group women																																
Sr.No.	Name	Age	Occupation	socio economical status	Mutra	Mal	Jivha	Agni	Shabd	Sparsh	Nidra	Satva	Koshta	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21
1	Asha Gangaraj	38	Housewife	Middle	Prakrut	Prakrut	Sam	Mand	Prakrut	Prakrut	Prakrut	Avar	Madhya	2	0	2	2	0	2	3	3	0	0	23	2	1	1	1	0	1	2	1	1	1
2	Shamim Kashmiri	47	Housewife	Middle	Prakrut	Prakrut	Niram	Mand	Prakrut	Prakrut	Prakrut	Pravar	Madhya	2	0	2	2	0	2	0	1	2	12	25	2	1	1	1	1	1	2	1	1	3
3	Shraddha Mhatre	32	Housewife	Middle	Pitabha	Vibhand	Sam	Mand	Prakrut	Prakrut	Khandit	Madhyam	Krur	2	0	2	3	2	2	3	0	0	0	23	1	4	1	1	0	1	2	1	1	3
4	Sugandha Indulkar	38	Service	Upper	Pitabha	Vibhand	Sam	Mand	Prakrut	Prakrut	Khandit	Avar	Madhya	1	4	2	2	1	2	3	3	0	0	26	2	4	1	1	0	1	2	1	1	2
5	Swapna Kulkarni	46	Service	Upper	Prakrut	Prakrut	Sam	Mand	Prakrut	Prakrut	Khandit	Madhya	Madhya	1	2	2	2	0	2	3	3	0	0	24	1	4	1	1	0	1	2	1	2	3
6	Usha Ahire	69	Service	Middle	Prakrut	Grathit	Sam	Mand	Prakrut	Prakrut	Prakrut	Madhya	Madhyam	1	4	2	1	1	2	3	3	0	0	0	0	0	1	1	0	1	2	1	1	3
7	Deepali Thakur	37	Service	Middle	Prakrut	Prakrut	Niram	Mand	Prakrut	Prakrut	Prakrut	Pravar	Madhya	2	0	2	2	0	3	2	1	1	2	25	2	1	1	1	0	2	2	1	1	3
8	Sanjana Yerunkar	37	Service	Middle	Prakrut	Prakrut	Sam	Mand	Prakrut	Prakrut	Khandit	Madhya	Madhya	2	0	2	2	0	2	1	2	1	6	28	2	4	1	1	0	1	2	1	1	1
9	Kasturi Malapekar	18	Student	Upper	Pithabh	Prakrut	Niram	Sam	Prakrut	Prakrut	Prakrut	Pravar	Madhyam	2	0	2	3	0	2	3	3	0	0	0	0	0	1	1	0	1	2	1	1	3
10	Vinita Inje	30	Service	Upper	Pithabh	Prakrut	Niram	Sam	Prakrut	Prakrut	Prakrut	Pravar	Krur	1	1	2	2	0	2	3	3	0	0	28	0	0	1	1	0	1	2	1	1	3
11	Divya Prabhu	31	Housewife	Upper	Pithabh	Prakrut	Niram	Sam	Prakrut	Prakrut	Prakrut	Pravar	Madhya	2	0	2	3	0	2	2	2	2	5	26	0	0	1	1	0	2	2	1	1	1
12	Harshada Bhave	21	Housewife	Middle	Prakrut	Vibhand	Niram	Sam	Prakrut	Prakrut	Prakrut	Pravar	Madhya	2	0	2	2	0	1	3	3	0	0	0	0	0	1	1	0	1	2	1	1	3
13	Manisha Bhoir	35	Service	Middle	Prakrut	Vibhand	Sam	Sam	Prakrut	Prakrut	Prakrut	Pravar	Krur	1	4	2	2	0	2	1	1	0	0	25	2	1	1	1	0	1	2	1	1	3
14	Shibani Joshi	26	Housewife	Upper	Prakrut	Prakrut	Niram	Mand	Prakrut	Prakrut	Prakrut	Pravar	Madhya	2	0	2	2	0	3	1	1	0	0	25	0	0	1	1	0	1	2	1	1	3
15	Kanchan Jagyasi	32	Service	Middle	Prakrut	Prakrut	Niram	Mand	Prakrut	Prakrut	Prakrut	Pravar	Madhya	1	1	2	2	0	2	3	1	1	0	0	0	0	1	1	0	1	1	1	1	3
16	Poonam Jadhav	29	Housewife	Middle	Prakrut	Prakrut	Sam	Mand	Prakrut	Prakrut	Prakrut	Pravar	Madhya	2	0	2	2	0	2	1	1	0	0	24	1	1	1	1	0	1	2	1	1	3
17	Rajani Kelkar	59	Service	Middle	Prakrut	Vibhand	Sam	Mand	Prakrut	Prakrut	Prakrut	Pravar	Krur	2	0	2	2	1	2	3	3	0	0	25	2	1	1	1	0	1	2	1	1	3
18	Sangeeta Kadm	39	Housewife	Middle	Prakrut	Prakrut	Sam	Mand	Prakrut	Prakrut	Prakrut	Pravar	Madhya	2	0	2	2	0	2	3	3	0	0	24	2	1	1	2	0	1	2	1	1	3
19	Pratibha Kane	53	Service	Upper	Prakrut	Vibhand	Sam	Mand	Prakrut	Prakrut	Prakrut	Pravar	Madhys	2	0	2	2	1	2	3	3	0	0	22	2	1	2	1	0	1	2	2	1	3
20	Manisha Pawar	43	Service	Middle	Prakrut	Prakrut	Niram	Sam	Prakrut	Prakrut	Prakrut	Pravar	Madhya	2	0	2	1	0	3	1	3	0	0	26	1	1	1	1	0	1	2	1	1	1
21	Meenal Ponkse	48	Housewife	Middle	Prakrut	Prakrut	Sam	Sam	Prakrut	Prakrut	Prakrut	Pravar	Madhya	2	0	2	2	0	3	3	3	0	0	22	2	1	1	1	0	1	2	3	2	3
22	Ritu Manjarekar	38	Service	Upper	Prakrut	Prakrut	Sam	Sam	Prakrut	Prakrut	Prakrut	Madhyam	Madhya	2	0	2	2	0	2	3	3	0	0	28	1	1	1	1	0	1	2	1	1	1
23	purva Sawant	22	Student	Middle	Prakrut	Prakrut	Niram	Sam	Prakrut	Prakrut	Prakrut	Pravar	Madhya	2	0	3	3	0	1	2	3	0	0	0	0	0	1	1	0	1	1	1	1	2
24	Shilpa Sukur	39	Service	Middle	Prakrut	Prakrut	Sam	Sam	Prakrut	Prakrut	Prakrut	Madhyam	Krur	2	0	2	2	0	2	3	1	1	0	24	1	1	1	1	0	1	2	1	1	3
25	parnika Raskar	22	Student	Upper	Prakrut	Prakrut	Sam	Mand	Prakrut	Prakrut	Prakrut	Avar	Krur	2	0	2	3	0	2	0	0	0	0	0	0	0	1	1	0	1	2	1	1	3
26	Ami Sachade	38	Housewife	Upper	Prakrut	Prakrut	Sam	Mand	Prakrut	Prakrut	Prakrut	Madhyam	Madhya	2	0	2	2	0	2	3	3	0	0	23	2	1	1	1	0	1	2	1	1	1
27	Hemlata Deshmukh.	52	Service	Upper	Prakrut	Prakrut	Sam	Mand	Prakrut	Prakrut	Prakrut	Madhyam	Madhya	2	0	2	2	1	2	3	3	0	0	23	2	1	1	1	1	2	1	1	1	1
28	Revati Bhat	45	Housewife	Upper	Prakrut	Prakrut	Sam	Sam	Prakrut	Prakrut	Prakrut	Avar	Madhya	1	3	2	2	0	3	1	1	1	0	24	2	1	1	1	0	1	2	1	1	1
29	Madhuri Jagtap	35	Housewife	Middle	Prakrut	Prakrut	Sam	Sam	Prakrut	Prakrut	Prakrut	Avar	Krur	2	0	2	2	0	2	3	2	1	0	29	1	4	1	1	0	1	2	1	1	2
30	Bhavana Narrayani	30	Housewife	Middle	Prakrut	Prakrut	Niram	Sam	Prakrut	Prakrut	Prakrut	Avar	Madhya	2	0	2	2	0	2	3	3	0	0	24	0	0	1	1	0	2	2	1	1	3

Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55
1	4	2	4	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1
1	4	2	4	3	2	1	1	1	3	3	3	3	1	1	1	2	3	2	2	3	1	4	1	3	3	1	3	1	3	1	1	1
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4	4	2	4	2	2	3	2	1	4	4	4	3	2	1	1	1	3	1	3	2	1	1	1	3	2	1	1	1	3	1	1	2
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3	2	2	4	2	2	3	2	2	3	1	3	2	1	1	1	1	2	1	2	2	1	3	1	2	1	2	2	2	1	1	1	1
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1	4	1	4	2	2	3	1	2	2	2	2	1	1	1	1	1	2	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1
1	4	2	4	3	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1
1	4	2	4	3	2	1	2	2	2	2	2	2	1	1	1	1	2	1	1	2	2	3	1	1	1	1	1	1	1	1	1	1
1	4	2	4	3	2	1	2	1	2	2	2	2	1	1	1	1	1	1	2	1	1	3	1	1	1	1	1	1	1	1	1	1
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3	4	1	4	1	1	1	2	2	2	2	2	2	1	1	1	1	2	1	1	2	1	3	1	1	1	1	1	1	1	1	1	1

Master chart of Ovarian cancer patients

Sr. No.	Name	Age	HPR	Occupation	socio economical status	Mal	Mutra	Jivha	Agni	Shabd	Sparsh	Nidra	Satva	Koshta
1	Shobha Sakharam Agre	63	High greade serous carcinoma	Service	Middle	Grathit	Prakrut	Niram	Mand	Prakrut	Prakrut	Khandit	Madhyam	Mrudu
2	Kalpana Vijayakumar Jain	65	High Grade serous carcinoma	Housewife	Upper	Prakrut	Prakrut	Niram	Mand	Prakrut	Prakrut	Prakrut	Madhyam	Mrudu
3	Snehal Pramod kubal	55	Serous Papillary Adenocarcinoma	Housewife	Upper	Grathit	Prakrut	Niram	Sam	Prakrut	Prakrut	Prakrut	Pravar	Mrudu
4	Deepa Pradeep Jogdand	37	High Grade adenocarcinoma in bilateral ovaries.	Teacher	Middle	Grathit	Prakrut	Niram	Sam	Prakrut	Prakrut	Prakrut	Madhyam	Mrudu
5	Sharmila Vyas	47	Bilateral ovaries – Serous papillary carcinoma	Teacher	Middle	Prakrut	Prakrut	Niram	Sam	Prakrut	Prakrut	Khandit	Pravar	Madhya
6	Vijaya Dattatray Abnave	52	Bilateral ovarian High grade serous Carcinoma	Housewife	Upper	Grathit	Nakt mu	Sam	Mand	Prakrut	Prakrut	Khandit	Madhyam	Krur
7	Indubai Hanumant Katave	66	High grade poorly differentiated malignant	Housewife	Middle	Grathit	Prakrut	Sam	Mand	Prakrut	Prakrut	Prakrut	Madhyam	Mrudu
8	Rekha Patil	54	serous cystadenocarcinoma	Housewife	Middle	Grathit	Sadah	Sam	Sam	Prakrut	Prakrut	Alpa	Madhyam	Mrudu
9	Kavita Sham Lakhani	61	Metastatic Papillary adenocarcinoma	Housewife	Upper	Bhasarat	Prakrut	Sam	Mand	Prakrut	Prakrut	Prakrut	Madhyam	Madhya
10	Veena Singh	64	High grade poorly differentiated malignant	Service	Upper	Bhasarat	Prakrut	Sam	Mand	Prakrut	Prakrut	Prakrut	Madhyam	Madhya
11	Deeplaxmi Gopichand Chodankar	44	High Grade papillary serous adenocarcinoma	Service	Upper	Prakrut	Prakrut	Niram	Mand	Prakrut	Prakrut	Khandit	Madhyam	Madhya
12	Sushma Rane	56	Adenocarcinoma Grade III	Housewife	Middle	Prakrut	Prakrut	Sam	Mand	Prakrut	Prakrut	Prakrut	Pravar	Madhya
13	Usha Kanhere	47	High grade Mucinous adenocarcinoma of the ovary	Housewife	Middle	Grathit	Prakrut	Niram	Sam	Prakrut	Prakrut	Prakrut	Madhyam	Krur
14	Pooja Pravin Rane	49	serous cystadenocarcinoma	Service	Upper	Prakrut	Prakrut	Sam	Tikshn	Prakrut	Prakrut	Prakrut	Pravar	Mrudu
15	Anagha Anil Bapat	56	Residual adenocarcinoma	Retired	Upper	Prakrut	Kwachit	Sam	Sam	Prakrut	Prakrut	Khandit	Pravar	Krur
16	Neela Vilas Datar	66	Ovarian moderately differentiated serous papillary	Retired	Upper	Prakrut	Prakrut	Sam	Sam	Prakrut	Prakrut	Prakrut	Pravar	Madhya
17	Deepali J Sawant	64	Serous cystadenocarcinoma	Retired	Upper	Grathit	Prakrut	Sam	Mand	Prakrut	Prakrut	Khandit	Pravar	Krur
18	Sunanda Chandrakant Dahivalkar	54	Serous Papillary Cyst Adenocarcinoma	Housewife	Middle	Prakrut	Prakrut	Sam	Mand	Prakrut	Prakrut	Khandit	Madhyam	Madhya
19	Rekha Ramesh Chaudhary	62	High grade Mucinous adenocarcinoma of the ovary	Retired	Middle	Prakrut	Prakrut	Sam	Sam	Prakrut	Prakrut	Prakrut	Pravar	Madhya
20	Shobha Annasaheb Pawar	50	serous cystadenocarcinoma	Housewife	Middle	Prakrut	Prakrut	Sam	Sam	Prakrut	Prakrut	Prakrut	Pravar	Madhya
21	Anjali Ravindra Tembhurnikar	51	High grade Mucinous adenocarcinoma of the ovary	Retired	Middle	Prakrut	Prakrut	Sam	Sam	Prakrut	Prakrut	Prakrut	Madhyam	Madhya
22	Usha Sharad Patil	45	serous cystadenocarcinoma	Housewife	Upper	Prakrut	Prakrut	Sam	Sam	Prakrut	Prakrut	Prakrut	Pravar	Madhya
23	Devashree Rajesh Wadkar	19	Boardeline Mucinous tumor	Student	Upper	Prakrut	Prakrut	Niram	Mand	Prakrut	Prakrut	Prakrut	Pravar	Madhya
24	Sugandha Yadav	55	Mucinous cystadenoma	Housewife	Upper	Prakrut	Prakrut	Niram	Sam	Prakrut	Prakrut	Khandit	Madhyam	Madhya
25	Sunita Samant	59	High grade poorly differentiated adenocarcinoma	Housewife	Upper	Prakrut	Prakrut	Sam	Mand	Prakrut	Prakrut	Prakrut	Madhyam	Madhya
26	Shailaja Vasant Gurav	63	Poorly differentiated adenocarcinoma	Housewife	Middle	Prakrut	Prakrut	Sam	Mand	Prakrut	Prakrut	Khandit	Madhyam	Madhya
27	Charuta Abhay Paranjape	49	Metastatic adenocarcinoma likely primary site	Service	Upper	Grathit	Prakrut	Sam	Sam	Prakrut	Prakrut	Khandit	Madhyam	Krur
28	Nisha Suryakant Kand	40	Papillary solid serous cystadenocarcinoma	Housewife	Middle	Prakrut	Prakrut	Sam	Sam	Prakrut	Prakrut	Khandit	Pravar	Madhya
29	Nanda Vilas Mane	44	High Grade solid with papillary serous	Housewife	Upper	Prakrut	Prakrut	Sam	Sam	Prakrut	Prakrut	Prakrut	Madhyam	Madhya
30	Anuradha Chandrakant Kulkarni	74	Residual viable high papillary serous carcinoma	Retired	Upper	Prakrut	Prakrut	Sam	Sam	Prakrut	Prakrut	Prakrut	Madhyam	Madhya

Sr. No.	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	2	0	2	2	1	2	3	3	0	0	20	3	1	1	2	0	1	2	3	1	2	1		2	4	1	2	1	1	1
2	2	0	2	2	1	2	3	2	1	0	31	1	4	1	2	0	2	1	1	1	3	2	1	2	4	1	1	3	2	1
3	2	0	2	2	1	2	3	3	0	0	25	1	3	1	1	0	1	1	1	1	3	1		2	4	3	1	3	2	1
4	1	2	2	2	2	2	3	3	0	0	20	3	1	1	3	0	1	1	2	2	3	3	4	2	4	3	2	2	2	2
5	2	0	2	2	2	1	3	3	0	0	27	1	1	2	1	0	1	2	1	1	2	2	4	2	4	1	2	3	2	2
6	2	0	2	3	1	1	2	3	2	0	17	2	1	1	1	0	1	2	1	1	1	3	4	2	4	3	2	3	1	1
7	2	0	2	2	1	2	1	3	3	0	21	4	1	1	1	0	1	2	5	1	3	1	4	2	4	3	2	3	2	1
8	1	4	2	2	3	2	3	3	0	0	23	2	1	2	2	0	1	2	2	1	3	1	4	2	4	3	2	3	1	1
9	1	3	2	2	2	1	3	3	0	0	21	2	1	2	2	0	1	1	1	1	3	2	4	2	4	3	1	1	1	1
10	2	0	3	2	1	2	3	3	0	0	25	0	0	1	1	0	1	2	1	1	3	3	4	2	4	3	1	1	1	1
11	1	1	2	2	2	3	3	3	0	0	0	0	0	1	1	0	1	1	1	1	3	1	4	1	4	2	2	1	2	1
12	2	0	2	2	1	2	3	3	0	0	20	3	1	1	1	0	1	2	3	2	3	1	4	2	4	1	3	3	1	2
13	2	0	2	2	2	2	3	3	0	0	21	1	4	2	1	0	2	2	1	1	1	1	4	2	4	1	2	3	2	2
14	1	4	2	2	2	2	3	3	0	0	24	1	1	1	2	0	1	2	3	1	3	2	1	2	4	3	2	1	2	2
15	1	2	2	2	1	1	3	3	0	0	23	1	4	1	2	0	1	2	3	1	3	2	2	2	4	1	2	3	2	1
16	1	3	2	2	1	2	3	3	0	0	29	2	3	2	2	0	1	2	1	1	3	4	2	4	1	1	1	3	2	2
17	2	0	2	2	1	2	3	3	0	0	25	2	1	1	2	0	1	2	2	1	3	2	2	2	4	3	2	1	2	2
18	2	0	2	2	2	2	3	3	0	0	17	1	1	3	1	0	1	1	1	1	3	1	4	2	1	1	2	2	2	2
19	1	4	2	2	1	2	3	3	0	0	21	2	1	1	1	0	1	2	5	1	1	1	4	2	4	3	2	3	2	2
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21	2	0	2	4	2	2	3	3	0	0	21	1	3	1	1	0	1	2	2	1	1	2	2	2	4	3	2	2	2	2
22	1	4	2	2	3	2	1	1	1	0	14	1	1	1	1	0	1	2	1	2	2	3	2	4	1	2	2	2	2	2
23	2	0	2	2		2	3	3	0	0	0	0	0	1	1	0	1	2	1	1	3	3	1	2	4	3	2	2	2	1
24	2	0	2	2	1	2	3	3	0	0	17	3	1	1	1	0	1	2	1	1	3	1	4	2	1	1	2	1	2	2
25	2	0	3	2	1	2	3	3	0	0	26	2	3	1	1	0	1	2	5	1	3	2	1	2	4	1	2	3	2	2
26	2	0	2	2	2	2	3	3	0	0	18	3	1	2	2	0	1	1	3	2	3	1	4	2	1	2	3	1	2	2
27	1	3	2	2	2	2	3	3	0	0	28	0	0	1	1	0	1	2	1	1	1	2	1	2	2	2	2	1	1	1
28	1	3	2	2	2	2	3	3	0	0	28	1	1	1	1	0	1	1	1	1	3	1	4	2	4	1	3	2	2	1
29	1	2	2	2	2	1	1	2	2	0	15	2	1	1	2	0	1	2	3	2	3	2	3	2	4	2	3	3	1	1
30	1	0	2	2	1	2	3	3	0	0	23	3	1	1	2	0	1	2	1	1	1	1	4	2	4	3	2	2	2	2

Sr. No.	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55
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9	1	3	1	1	1	1	1	1	2	1	1	3	1	3	1	3	3	1	1	1	2	1	1	1
10	3	1	1	2	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1
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12	1	1	1	1	1	1	1	1	1	1	2	1	1	1	4	1	1	1	1	1	1	1	1	1
13	1	1	2	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1
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22	2	2	2	1	1	1	1	1	2	3	1	3	1	4	1	1	1	1	1	1	1	1	1	1
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27	1	1	1	1	1	1	1	1	3	1	1	3	1	2	1	1	1	1	1	1	1	1	1	1
28	3	3	3	2	1	1	1	1	4	3	3	3	1	2	1	2	1	2	1	1	1	1	1	1
29	3	1	3	3	1	1	1	1	2	1	1	2	1	2	4	1	1	1	1	1	1	1	1	1
30	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1