

PREVENTIVE STRATEGIES OF CERVICAL MALIGNANCY-AN AYURVEDIC
APPROACHDr. Vishala Turlapati*¹ and Dr. Amruta Dhulubulu²¹Professor, MD, PhD, Prasrutitantra Evum Striroga, Yashwant Ayurvedic College Kodoli, Kolhapur.
²(PG Scholar Prasutitantra Evum Striroga), Yashwant Ayurvedic College Kodoli, Kolhapur.

*Corresponding Author: Dr. Vishala Turlapati

Professor, MD, PhD, Prasrutitantra Evum Striroga, Yashwant Ayurvedic College Kodoli, Kolhapur.

Article Received on 21/12/2023

Article Revised on 11/01/2024

Article Accepted on 01/02/2024

ABSTRACT

Cancer, one of the deadliest challenges spreading drastically in 21st century, has now officially become the most dangerous killer in the world according to the World Health Organization. Who can deny the fact that cancer is related to adversary of modernization and advanced pattern of irregular and stressed life dominated by Western medicine. Scientists are making their best efforts to fight this disease; however, the sure-shot cure is still awaited. Ayurveda, the oldest Indian indigenous medicine system of plant drugs is known from very early times for preventing or suppressing various tumours using these natural drugs. And nowadays scientists are keener to researches on complementary and alternative medicine for the management of cancer. In Ayurvedic concept, according to 'Charaka' and 'Sushruta Samhitas' cancer is described as inflammatory or non-inflammatory swelling and mentioned either as 'Granthi' (minor neoplasm) or 'Arbuda' (major neoplasm).

KEYWORDS: Arbuda, cervical Cancer, prevention.

INTRODUCTION

Cervical cancer occurs at the lower part of the uterus called the cervix, which is connected to the Vagina. Most cervical cancers are caused due to the sexually-transmitted Human Papillomavirus (HPV).

Cervical cancer is a disease that has been on the rise for many years, but since the last few years of the previous decades, the cases have been increasing at an alarming rate. **Cervical cancer** is a sexually transmitted disease that can be treated with allopathic medicine, but such medicine in delicate situations turns out to be harsh on the body. On the other hand, the 5000 years old science of Ayurveda can help patients recover from this condition with effective methods.

Cervical Cancer with HPV

Over 99.7 percent of patients with CIN and invasive cancer are found to be positive with HPV DNA.^[1] High risk HPV types include 16, 18, 31, 33, 35, 45, 56 types, out of which type 16 is responsible for more than 50% cases.^[2]

Types of cervical cancer^[3]

There are several types of cervical cancer but most cases are from the two major types, let's have a look over types of cervical cancer.

Cervical cancer develops in two types of cells in the line of the cervix, the lower part of the uterus. These cells are Endocervix and Exocervix. Where Endocervix is closest to the uterus and Exocervix is closest to the vagina. The spot where these two types of cells meet is called the transformation zone.

The two major types of cervical cancer are Based on cells involved

- **Adenocarcinoma:** This type of cervical cancer develops in the glandular cells of the endocervix. The glandular cells are present inside the track that reaches the womb from the cervix. This type occurs in only 30% of the patients.
- **Squamous cell carcinoma:** This type of cervical cancer develops in the squamous cells in the exocervix. These cells form the outer lining of the cervix connecting it to the vagina. This is the more common type of cervical cancer found in around 70% of the patients.

Based on Naked Eye Appearance

- **Exophytic type** - Arise from ectocervix, form friable masses, filling the upper vagina.
- **Ulcerative type** - Here, lesion excavates the cervix and it often involves the fornices.
- **Infiltrative type** - It is found as endocervical growth. It causes expansion of the cervix making it

barrel-shaped.

Symptoms

The initial stages of Cervical cancer do not have visible symptoms, but advanced stages of cervical cancer show the following symptoms-

- Bleeding from the vagina after intercourse, between periods, after pelvic examination, or menopause.
- Heavier and longer menstrual bleeding and irregular menses.
- Heavy pelvic pain during intercourse.
- Unexpected discharge, sometimes containing blood.

ETIOPATHOGENESIS OF ARBUDA

It is based mainly on Doshic theory i.e. Vata, Pitta and Kapha. Further by Mithya Ahara and Vihara the different humors are vitiated involving different Dhatus (Mamsa, Meda, Rakta, etc). resulting in the prescription of Arubuda. Though vitiated 'Dosha' are responsible for the development of Arbuda, almost all Ayurvedic texts have given maximum importance to Kapha. Susruta has mentioned that due to excess of Kapha, Arbuda does not suppurate^[4], which is considered to be the common and important factor for any growth in the body. Thus, it seems justified to postulate that excess of vitiated Kapha in the body might be responsible for the precipitation of cancer. Irritation⁵ and trauma^[6] may precipitate or activate the formation of Arbuda. Where, for the enlargement of external genitalia, local application of certain irritable medicines has been advised. More often improper use or misuse of those drugs i.e. Linga Vridhikara Yoga has led to the development of Mamsarbuda. According to Susruta, trauma is also considered to be another causative factor for the development of Mamsarbuda, whereas Vagbhata has described that whenever, there is excessive formation of Mamsa Dhatu it may lead to various pathological conditions, such as Galaganda, Gandamala, Arbuda, Granthi and Adhimamsa. It indicates that Mithya Ahara and Mithya Vihara probably changes local or systematic bio chemical factors including the haemodynamics leading to the origin of Arbuda.

HPV Triage Strategy

Pathogenesis of HPV Infection^[7]

1. HPV inserts itself into the immature squamous cells of the transformation zone.
2. This virus integrates its DNA into host DNA.
3. Using the host DNA, HPV makes huge amounts of two oncoproteins E6 and E7.
4. These proteins are responsible for pushing mature squamous cells through the cell replication cycle by blocking the action of tumor suppressor genes like p53.
5. The end result is uncontrolled replication of cervical epithelial cells which are resistant to apoptosis or normal programmed cell death.

Dysplasia and Cancer Development

- 1) Normally, mature cells are stuck in G₁ or Growth 1

phase of cell cycle during which the cells grow and do important functions like protein synthesis and energy production.

- 2) Whenever new cells are needed, they will exit the G₁ phase and divide into two identical daughter cells.
- 3) But during this pathological condition, cells are pushed out of G₁ and go through the cell reproduction cycle faster than the body needs new cells.
- 4) This uncontrolled growth and multiplication is called dysplasia and it is exactly how cervical cancer develops from the precancerous cells.
- 5) There is replacement of columnar epithelium at squamocolumnar junction either by the process of squamous epidermization or by metaplasia of reserve cells.
- 6) Under low vaginal pH, it results into the formation of immature unstable cells.
- 7) If the host immune defense is good, then these immature unstable cells undergo physiologic metaplasia and form well differentiated squamous epithelium.
- 8) But if there is presence of carcinogens, high risk type HPV infection, risk factors, poor immunity, then these immature unstable cells undergo Atypical metaplasia resulting in CIN and later on CIS and invasive carcinoma.

Corelation of Cervical Cancer & Shatkriyakala

The concept of Kriyakala is one of the important original contributions of Sushruta. Malignant growth is the subsequent driving reason for death globally. Ayurveda, the oldest Indian medical system understands cancer as the derangement of tridosha as a whole of neuro-humoral, metabolic and adaptation of unwhole some measures in respect to diet, conduct and activities that causes loss of shared coordination in homeostasis and disturbs the normal tissue and cell tissue multiplication.^[8] Malignant growth includes anomalous cell development with the possibility to assault or spread to different parts of the body.

Cancer develops in a prolonged, multistep process in a group of malignant, autonomously growing abnormal clone cells, through the sequential acquisition of primarily somatic mutations in critical genes, due to exposure of DNA damaging chemicals such as deranged diet and lifestyle.^[9] This study also explains that Shatkriyakala, is mentioned in Sushruta Samhita texts, gives a thought about the succeeding stages of diseases and a significant role in the point of view of chikitsa (treatment modalities) for application in management of various stages of the diseases.

An early diagnosis of all phases of disease will help understanding the pathophysiology of disease and prevents to advance progression of the diseases by subsiding of Nidanas (etiological factors). Holistic approach to cure, prevention and improvement of quality of life. Impairment of diet, erratic life style and other

environmental factors stimulate the abnormal cell proliferation.

Correlation of Shatkriyakal with cancer cells is tabulated below-

Table shows Correlation of Shatkriyakala with cancer cell proliferation/progression

| Correlation of Shatkriyakala with cancer cell proliferation /progression | |
|---|--|
| 1. Sanchaya | Initial stages of neoplastic growth due to deranged Doshas |
| 2. Prakopa | Unusual cell proliferation within primary organ site |
| 3. Prasara | Cell migration beyond the margin of primary organ/tissue and tumour reaches distant organ through circulatory (Srotas) pathway |
| 4. Sthanasamshraya | Where localized (Srotodusti) further starts multiplication of cell growth due to a combination of abnormal Doshas and Dushya. |
| 5. Vyakti | Clinical manifestations of signs and symptoms of benign & metastatic tumours |
| 6. Bheda | Advancement of disease, initiation of metastasis, differentiation of tumour growth and development of complications |

Ayurvedic Correlations of Cervical Cancer

1. Rakta Arbuda

As per Acharya Sushruta, vitiated Doṣha compressing and constricting the blood and blood vessels, produces fast growing muscular protuberance, which may or may not suppurate, is associated with moist discharges and is covered with muscular sprouts.

There is continuous discharge of vitiated blood and the patient becomes Panduvarṇa. Acharya considered it incurable.

2. Granthibhuta Artavaduṣṭi

Acharya Sushruta mentioned Vata and Kapha Doṣha responsible for this. Pelvic pain in cervical cancer could be due to Vata and foul smelling discharges due to vitiation of Kapha Doṣha. The blood mixed discharges are clotted in appearance. It is kept under Asadhya category.

3. Mutra-Puriṣha-Gandhi Artavaduṣṭi

There is presence of smell of urine and feces in menstrual blood. Such type of condition may occur in third and fourth stage of cervical carcinoma. It is also kept under Asadhya category.

4. Sannipataja Asrgdara

On the basis of foul smelling, multicolored discharges, severe anemic condition and incurability, it could be correlated with cervical cancer condition.

5. Ariṣṭa Artava Lakṣhana

Under description of Ariṣṭa Lakṣhana (features of incurability) of Artava, Harita has mentioned that the woman suffering from fever, having very short intermenstrual period and continuous bleeding is incurable.

Diagnostic standards

- Papsmear - Pap tests are usually done during a speculum exam, a provider may do a speculum exam for other reasons without collecting a sample for a Pap smear. Also, Pap tests and HPV tests only screen for cervical cancer. Ovarian cancer is not detected with the Pap test, or the HPV test

- VIA, VILI
- Colposcopy- a procedure involving a speculum examination of the cervix using a colposcope, which allows the doctor to see the surface of the cervix more clearly.
- Colposcopy guided biopsy - Colposcopy, a procedure involving a speculum examination of the cervix using a colposcope, which allows the doctor to see the surface of the cervix more clearly, spot any areas that appear pre-cancerous or cancerous, and remove a small piece of tissue for biopsy.
- Endocervical curettage, or endocervical scraping, may be performed to determine whether abnormal cells are present in the endocervical canal.
- Cone Biopsy or Conization - Cone Biopsy or conization, is a procedure in which a cone-shaped area of tissue is removed from the cervix. Sometimes this is called a loop electrosurgical procedure (LEEP), when a device with a heated thin wire loop is used to excise the abnormal area. A LEEP may be done as an office procedure. Cone biopsies are typically done in an outpatient surgical setting.

PREVENTIVE STRATEGIES OF GYN. CANCERS

- Prevention of ovarian cancer-not to delay pregnancy
- Healthy weight, active life style-prevents uterine cancers.
- Genetics-with family history of colon cancer
- Increased risk in Type 2 dm-REGULAR SCREENING
- High animal fat
- Extended exposure to oestrogen
- <12 years menarche, delayed menopause.
- Low dose IUD
- Evaluating perimenopausal AUB and post menopausal bleeding.

AYURVEDIC PREVENTIVE STRATEGIES

1. **Diet, life style, Spirituality**- In day to day life style Acharya mention **Rajaswalacharya** in which detailed Eating Yava (Barley), milk, shali, Ghṛta for 1st 3 days during menses. Ghṛta increases the level of HDL, which is a plasma antioxidant. Shali rice

have Tridoṣa Shamaka and Bṛihana properties. Milk is bṛihana & Rasayana. Yava have Guru, Madhura, Shita, Sara properties. During menses it is used Karṣanārtha and Koṣṭhashodhanārtha. It is Agnivardhaka, Puriṣajanaka. It also has mild Vatakara property which is pacified by adding milk in it. It is Kapha, Pitta, Rakta Vikarahara also. Vata take out menstrual fluid out from the body and thus causing Shodhana. So, every woman should follow it to eliminate the Doṣhas from body. If woman takes heavy food these days, then Vata mix with Pitta Doṣa and interferes with the food digestion resulting in Agnimandya. As Rajaswalacarya helps to maintain the hormonal balance, thus it helps in controlling the expression of Estrogen receptor – α which is responsible for the stimulation of reproductive tract proliferation.

- Virechana Karma** – Virecana have Srotoshodhana and Vatanulomana properties. It also brings Budhi SHudhi and Prasadana, having a decompressing effect over the system. Due to the Vyavayiguṇa of Virecana Dravyas they get circulated quickly into large and small blood vessels of the body. Due to Vikasiguṇa, the Malas are detached from their respective Dhatus. By virtue of its Uṣṇa and Tikṣṇaguṇas the accumulated Doṣas get liquefied and disintegrate into small particles at cellular level. Then these vitiated Doṣas and Malas are expelled out of the body through the Adhomarga.²⁴ By the Anulomana of Praṇavayu and SHodhana Karma it is helpful in pacifying the Doṣas and detoxifying the body from free radicles.

Some Local Treatment Modalities

- Yoni Prakṣhalana** - Ayurvedic vaginal douching performed with herbal remedies (eg. Triphala Kwatha, Pancavalkala Kwatha). The procedure is highly recommended to all women suffering from recurring vaginal flora problems. It helps in maintaining the vaginal pH and helpful in prevention of cervical cell pathology.
- Yonivarti** – Kṣhara Karma by Kasisadi Kṣhara in one sitting followed by Darvyadi Yoni Varti of 3 gm once at bed time from next day for 21 days is found to be effective in the management of primitive cervical cell pathology, thus helpful in reversal of premalignant lesions like LGSIL. Yonivarti have Vraṇashodhana property so it cleans the eroded area. It is Kledahara and Kṛmighna, thus reduces the abnormal vaginal discharges and inhibits growth of microorganism. Then due its Ropaṇa and Sandhanakara Karma, it causes healing and rejuvenation.
- Agnikarma** - Shalaka made from Swarṇa have anticancer properties. Agnikarma is effective in treating cervical erosion, CIN – I. As per Acarya Sushruta Agnikarma have Vraṇa Shodhana, Vraṇa

Ropaṇa, Sira Sankocana, Chedana, Doṣa SHamana, Rogaṇam Apunarbhava properties. It is better than electric cauterization as it prevents the recurrence and excessive vaginal discharge.

- Yoni Pichu** – It could be done with Jatyadi Taila, Tila Taila, Kṣara Taila etc. causing Vraṇa Shodhana and Ropaṇa. It is also beneficial in maintaining the vaginal pH.

DISCUSSION

Cervical cancer is highly preventable if detected earlier and proper measures are taken for its prevention and cure. Due to lack of awareness and due to various personal reasons, very small number of females undergoes regular screening procedure. There is also a lack of knowledge of various preventive measures for HPV (Human Papilloma Virus). Negligence and failure to treat the precancerous condition are the main causes behind the chronicity of the disease. All this result in its poor prognosis. The major part of population having low socioeconomic status suffer the most due to their illiteracy, lack of awareness regarding personal hygiene and screening procedures, hesitation in talking about such things. The patients avoid consulting a doctor until it becomes a major issue and creating so many problems like chronic menstrual irregularities, severe backache, pain abdomen, urinary dysfunctions etc. Also, HPV vaccinations have an important role in prevention of cervical cancer but very few are aware to this and very less number of women gets vaccinated. Different Ayurvedic procedures are very effective in prevention and complete cure of the disease if the measures are taken in early stages of dysplasia. So, it is the need of time to create awareness about the screening procedures, HPV vaccination and various Ayurvedic measures and medications should be used for the prevention of cervical cancer. As much of occurrence of cervical cancers is due to HPV, the number of screenings should be increased more among the rural population. Further, the Nidana responsible for the development of the disease should be avoided so as to break the Samprapti chain. The specific regimes like Rajaswalacarya should be followed and simple but effective procedures like Yoni Prakṣhalana and Pichu should be used for prevention. This will help to improve the quality of life in females and also in decreasing the morbidity and mortality from such a preventable disease.

REFERENCES

- Chee Kai Chan, Gulzhanat Aimagambetova, Talshyn Ukybassova, Kuralay Kongrtay, Azliyati Azizan, "Human Papillomavirus Infection and Cervical Cancer: Epidemiology, Screening, and Vaccination—Review of Current Perspectives", *Journal of Oncology*, 2019; 3257939: 11. <https://doi.org/10.1155/2019/3257939>
- Dutta DC, Text Book of Gynecology, Enlarged and Revised Reprint of 6th ed. Kolkata: New Central Book Agency (P) Ltd., 2013; 323.
- Dutta DC, Text Book of Gynecology, Enlarged and

- Revised Reprint of 6th ed. Kolkata: New Central Book Agency (P) Ltd., 2013; 340.
4. Kaviraj Ambikadutta Shastri, Sushrut Samhita, Pratham Bhag, Chaukhambha Sanskrit Sansthan, Nidan Stan 9/15, 348.
 5. Kaviraj Ambikadutta Shastri, Sushrut Samhita, Pratham Bhag, Chaukhambha Sanskrit Sansthan, Nidan Stan 14/3, 375.
 6. Kaviraj Ambikadutta Shastri, Sushrut Samhita, Pratham Bhag, Chaukhambha Sanskrit Sansthan, Nidan Stan 11/18, 358.
 7. Dutta DC, Text Book of Gynecology, Enlarged and Revised Reprint of 6th ed. Kolkata: New Central Book Agency (P) Ltd., 2013; 324.
 8. Rabinarayan, T & Das, N. Cancer - An Ayurvedic Perspective and Overview. International Journal of Applied Agricultural Research, 2017; II(11): 1496–1502.
 9. Harrison, Hauser, Braunwald, Longo, Fauci & Jameson, 2001. Harrison's principles of internal medicine by Kasper Hauser. 16th Edition Chapter 71 483.