

**PATHO-PHYSIOLOGICAL UNDERSTANDING OF SROTAS IN
ARBUDA (CANCER) AND ITS MANAGEMENT THROUGH
AYURVEDA**

**Sabharwal Pooja^{1*}, Naik Bibhu Prasad², Gaur M. B.³, Pandey Yogesh⁴ and Gujjarwar
Vidula⁵**

¹Assistant Professor, PG Department of Rachana Sharir, Ch. Brahm Prakash Ayurved
Charak Sansthan, Khera Dabar, Najafgarh, New Delhi.

²PG Scholar, PG Department of Kriya Sharir, Ch. Brahm Prakash Ayurved Charak Sansthan,
Khera Dabar, Najafgarh, New Delhi.

³Prof. & H.O.D., PG Department of Kriya Sharir, Ch. Brahm Prakash Ayurved Charak
Sansthan, Khera Dabar, Najafgarh, New Delhi.

⁴Associate Professor, PG Department of Kayachikitsa, Ch. Brahm Prakash Ayurved Charak
Sansthan, Khera Dabar, Najafgarh, New Delhi.

⁵Director-Principal, Ch. Brahm Prakash Ayurved Charak Sansthan, Khera Dabar, Najafgarh,
New Delhi.

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***Corresponding Author**

Sabharwal Pooja

Assistant Professor, PG
Department of Rachana
Sharir, Ch. Brahm Prakash
Ayurved Charak Sansthan,
Khera Dabar, Najafgarh,
New Delhi.

ABSTRACT

Human body is made up of *Tridosha*, it is believed that equilibrium of *Vata*, *Pitta* and *Kapha* ensure good health. Any of the vitiated *Dosha* due to the changed in dietary habits and life style will lead to manifestation of so many fatal diseases likes *Arbuda* (Cancer) in our body. *Arbuda* in *Ayurveda* can be defined as metabolic changes in *Doshas* like *Vata-Pitta-Kapha*, *Dhushyas* like *Rakta*, *Mamsa*, *Meda* and *Srotas* likes *Raktavaha*, *Mamsavaha* and *Medavaha Srotas*. The factors, which are responsible for *Arbuda*, decrease the level of *Agni*. Again, *Agni* is the main source responsible for all types of digestion and metabolic process in the body, ultimately *Mandagni* leads to the formation of *Ama*. Formation of *Ama* in our body is one of the main causes of *Srotadusthi* that ultimately leads to manifestation of *Arbuda*

in our body. Vitiated *Doshas* causes vitiation of *Mamsadhatu* that leads to formation of immovable, rounded, mild-ache *Arbuda*, which

are big in size, deep rooted, slow growing in nature, do not suppurate. Chemotherapy & radiotherapy techniques discovered by the modern science are very useful for the treatment of *Arbuda* (Cancer) but the toxicity & side effects are the biggest issue for the society. So in this 21st century, the world is running behind alternative medicine like *Ayurveda* to minimize the side effects & toxicity of chemotherapy & radiotherapy techniques to prolong the lifespan of the patients. Hence, it is very important to adopt the *Ayurvedic* principles as a co-therapy along with chemotherapy or radiotherapy for the treatment of the *Arbuda* (Cancer).

KEYWORDS: Srotas, Arbuda, Cancer, Ayurveda.

INTRODUCTION

The *Doshas* (*Vata*, *Pitta*, and *Kapha*) and *Dhatu*s (*Rakta*, *Mamsa*, *Meda* etc.) of the body move from one part of the body to another part via channels called *Srotas*.^[1,2] The largest *Srotas* or Channel is the *Mahasrotas* or Gastrointestinal track. The smallest *Srotas* can be found in single cells in the body that under the microscope reveal that they are porous. Through these porous channels or *Srotas*, oxygen and nutrients can be absorbed and waste product like carbon dioxide can be expelled. Therefore, the *Srotas* (Channels) in the body act like paths or roadways transporting blood and sensory information, absorbing nutrients and expelling waste products from the body. A structural or functional defect of the *Srotas* or Channel is called *Srotadusti* (Obstruction of the *Srotas* or Channel). If the *Srotas* is flowing naturally it is in a state of health. Disease begins if the *Srotas* becomes imbalanced or obstructed. The obstruction of the *Srotas* is classified under four types – *Atipravriti*, *Sanga*, *Siragranthi* and *Vimargamana*.^[3]

Human body is made up of *Tridosha* (*Vata*, *Pitta* and *Kapha*)^[4], it is believed that equilibrium of *Vata*, *Pitta* and *Kapha* ensure good health.^[5] If any of the factors of *Tridosha* is vitiated due to the changed dietary habit and life style, body become diseased. Excessive use of meat is considered to precipitate the formation of *Mamsarbuda* described in *Sushrut Samhita*; *Musthi Prahar* (Trauma) is another important factor for development of *Mamsarbuda* mentioned in *Susruta Samhita*.^[6] *Vagbhata* emphasizes that factors responsible for excessive formation of muscle and soft tissue (*Mamsa Dhatu*) may lead to the development of *Arbuda* and other pathological conditions.^[7] Unhealthy diet (*Mithya Ahara*) and unhealthy regimen (*Mithya Vihar*) are the main reasons behind the rise in incidence of *Arbuda* (Cancer).

For the treatment of such dreadful disease, several researches have been conducted on its gene and molecular level but no fruitful result came. However, in contrast to classical medicine that has existed for thousands of years and has described many herbs and formulations which not only useful for the treatment but also promote good health and longevity without any side effects to humankind.

Anatomical and Physiological Importance of Srotas

Srotas, in broad term refers to the channels of circulation present in the human body. Anatomically and physiologically, *Srotas* (channels) of circulation have great importance. Anatomically, the channels of circulation are distinct from blood vessels including arteries, veins and capillaries and are omnipresent in the human body. From physiological point of view, channels of circulation are primarily responsible for the circulation of three biological humours (*Doshas*), nutrients (*Sara*) and waste (*Mala*) product to organs and from organs/organelles to expelled out.

Pathological Importance of Srotas

The diagnosis of the disease is based on malfunctioning of any of the three *Dosha* in *Ayurveda*. One vitiated *Dosha* can creates spillover effect in the human body. The disease having roots in one *Dosha* can travel though the channels of circulation and reach site of another place. Aggravated *Dosha* obstruct the channels of circulation thus creating hindrance in the transportation of the fluids. This situation is responsible for manifestation of diseases.

Patho-Physiological Understanding of Srotas in Arbuda

A cursory look at classical *Ayurvedic* literature gives ample indication that Cancer was known to ancient *Ayurvedic* physicians. Definitely, Cancer is not a modern disease. It is an interesting exercise to explore how much the ancient *Ayurvedic* physicians knew about Cancer.

Arbuda (Cancer) are gradually increasing mass of big size, globular in shape, fixed with deeper structure, usually do not suppurate, giving occasional pain and can occur in any part of the body.^[8] It can involve *Mamsa* due to vitiation of *Tridosas*. Hence, *Arbuda* can be correlated to Tumour either benign or malignant. Main reason of such localized growth is *Srotadusti* or *Srotavarodha*.

Arbuda forms as a result of vitiation of *Tridosha*. Here, because of continuous intake of aggravating factors of *Vata*, *Pitta*, *Kapha*, *Rakta*, *Mamsa* & *Meda* initially causes vitiation of *Doshas* and *Dhatus*.

Table 1: Aggravating factors of *Vata*, *Pitta*, *Kapha*, *Rakta*, *Mamsa* & *Meda*.

1.	<i>Vata</i> aggravating factors	Excessive intake of bitter, pungent and astringent Rasas. ^[9]
2.	<i>Pitta</i> aggravating factors	Excessive intake of pungent, sour and saline Rasas. ^[9]
3.	<i>Kapha</i> aggravating factors	Excessive intake of sweet, sour and saline Rasas. ^[9]
4.	<i>Rakta</i> aggravating factors	Excessive intake of acid or alkali containing foods. Fried and roasted foods, alcoholic beverages, sour fruits are some examples. Excessive anger or severe emotional upset, sunbathing or working under scorching sun or near fire and hot conditions, etc. ^[10]
5.	<i>Mamsa</i> aggravating factors	Excessive use of exudative foods like meat, fish, yoghurt, milk and cream. Behaviors leading to exudation like sleeping during the day and overeating are some of the causes for pathogens invading the fatty tissues. ^[11]
6.	<i>Meda</i> aggravating factors	Excessive intake of oily foods, sweets, alcohol and lazy attitude. ^[12]

That vitiated *Dosha* vitiates the *Mamsa Dhatu* at any part of the body and resulting metabolic and nutritional derangement occurs in the *Mamsa Dhatu*.

The vitiated *Dosha* decrease the level of *Agni* (Manifestation of *Mandagni*) and ultimately *Mandagni* leads to the formation of *Ama*. The *Agni*, which is present in each cell and is the main source responsible for all types of digestion and metabolic process in the body.^[13] The main active factors in the development of a disease are *Ama* and the mobility of the *Doshas*. *Ayurveda* does not consider Cancer as a distinct disease or set of diseases. Rather, *Ayurveda* states that all diseases result from gross, systemic imbalances and malfunctions of the three *Doshas*. *Arbuda* (Cancer) originate due to interactions between abnormal bio-factors and weakened body tissues. As described in *Sushruta Samhita*, the *Kaphakara* (Aggravating causative factors), such as *Guru* (Heavy) and *Snigdha* (Oily) foods, worsen the *Kapha* and affect the *Agni* of the body, which results in *Mandagni*. This leads to improper digestion of food and formation of *Ama*, which mix with biological factors and affect the body tissues, altering their qualities. Thus, there is a situation of systemic blockage and stagnation. This morbid situation affects circulation and may lead to all kinds of pathologic processes. *Srotavarodha* (Obstruction of body channels) plays a central role in all pathological processes. If the obstruction of body channels passes a threshold, it leads to *Vimarga Gamana* (Diversion of the flow of nutritive substances, chemicals and waste products), involving

bilateral damage. These morbid factors (i.e., Vitiated *Doshas*, vitiated *Mamsa Dhatus*, malfunctioning *Agni*, *Ama*, and *Srotavarodha*) lead to maltransformation of tissues such as *Rasa* (Plasma), *Rakta* (Blood), *Mamsa* (Muscles), *Meda* (Fat), *Asthi* (Bones).^[14] If such a sequence is continued, the event may lead to the development of an *Arbuda* (Tumor) that may be further develop to a malignant tumor (*Adhyarbuda*, *Dwirarbuda*). *Adhyarbuda* and *Dwirarbuda* refer to situations in which a tumor grows over another tumor and/or a tumor recurs twice.^[15]

It is based mainly on *Doshic* theory i.e. *Vata*, *Pitta* and *Kapha*. Further *Mithya Ahara* and *Vihara* vitiate the different humors involving different *Dhatus* (*Mamsa*, *Meda*, *Rakta*). *Vata Dosh* is responsible for cell division, Aggravated *Vata Dosh* and suppression of *Kapha Dosh* or both the *Doshas* interacting with one another may result in proliferation of cells.^[16]

Vitiated “*Dosa*” are responsible for the development of *Arbuda*, almost all *Ayurvedic* texts have given maximum importance to *Kapha*. *Sushruta* has mentioned that due to excess of *Kapha*, *Arbuda* does not suppurate.^[17] 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.

In benign tumour (*Vataja*, *Pittaja* or *Kaphaja*) one or two of the three bodily systems are out of control and is not too harmful because the body is still trying to coordinate among these systems. Malignant tumours (*Tridosaja*) are very harmful because all the three major bodily systems lose mutual coordination and thus cannot prevent tissue damage, resulting in a deadly morbid condition.

Modalities of Cancer Patients in Modern Medicine

There are many types of *Arbuda* (Cancer) treatment include chemotherapy, radiation therapy, and surgery. Other treatments include hormonal therapy, stem cell therapy, immunotherapy, tomotherapy etc. But most people have a combination of treatments, such as surgery with chemotherapy and radiotherapy. Chemotherapy, radiotherapy and hormonal therapy have harmful toxic effects along with their beneficial effects. Sometime the adverse reactions may produce fatal symptoms. Chemotherapy drugs and radiotherapy are highly toxic and both damage adjacent healthy cells. Side effects may be acute, intermediate or late. Some important side effects of chemotherapy are: nausea, vomiting, diarrhea, mucositis, alopecia, constipation; whereas radiotherapy though administered locally, can produce systemic side

effects such as fatigue, anorexia, nausea, vomiting, alteration in the taste, sleep disturbance, headache, anemia, dry skin, constipation. Late complications of these therapies also include pharyngitis, esophagitis, laryngitis, persistent dysphagia, fatigue, hepato-toxicity, infertility and cognitive deficits. These side effects have a devastating effect on the quality of life of the cancer patients.^[18]

Ayurveda – An Ideal Adjuvant of Modern Cancer Therapy

The goal of *Ayurvedic* treatment is to maintain the equilibrium state in the human body, which is called as Homeostasis in Modern Science. The primary aim is to bring back the metabolic derangement and nutritional derangement and the secondary goal is to improve the Immunity and Immune Response.

Ayurvedic preparation contain large number of anti-oxidant or oxygen scavengers. In addition, plant based medicine contain so many vital molecules like vitamins, minerals etc. This may be principle behind the specialized *Ayurvedic* formulation called *Rasayana* drugs. The use of these *Rasayana* drugs and specific anti-cancer drugs along with Modern cytotoxic drugs will definitely minimize the ill effects of chemotherapy and radiotherapy.

Ayurvedic treatment can also be offered in early stage of cancer to improve the quality of life. The therapeutic approach of *Ayurveda* should be started with *Sodhana Chikitsa* (Purification process), which eliminates vitiated *Dosha* followed by *Samana Chikitsa*, which pacifies the *Dosha* and gradually relieves the disease, *Rasayana Prayoga* (Immunotherapy), *Dhatwagni Chikitsa* (Correction of metabolic defects), *Vyadhipratyanika Chikitsa* (Specific anti-cancerous drugs), and *Lakshanika Chikitsa* (Symptomatic treatment). To improve the quality of life and for prevention in susceptible cases add on treatment can be given by changing lifestyle, healthy & compatible diet, herbo-mineral drugs, Periodic Panchakarma, regular Exercise, Holistic approach and meditation and by improving resistance.

CONCLUSION

The role of *Srotas* in the manifestation of diseases is mentioned in all *Ayurvedic* texts. Manifestation of *Arbuda* (Cancer) occurs in the body as a result of defective *Srotas* that may be either structural or functional defect of the *Srotas*. So, defective *Srotas* must be corrected quickly because without healthy *Srotas* normal function not occurs in the body.

Chemotherapy & radiotherapy techniques discovered by the modern science are very useful for the treatment of *Arbuda* (Cancer) but the toxicity & side effects are the biggest issue for the society. *Ayurvedic* drugs can be used along with chemotherapy and radiotherapy agents to enhance therapeutic effects and minimize the therapy induced toxicity. So in this 21st century, the world is running behind alternative medicine like *Ayurveda*. *Ayurvedic* medicines improve quality of life of the cancer patients and has a major role in palliative as well as curative care. Hence, it is very important to adopt the *Ayurvedic* principles as a co-therapy along with chemotherapy or radiotherapy for the treatment of the *Arbuda* (Cancer).

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