

Ayurveda in Cancer Therapy

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Definition (Nirukti and Paribhasha)

In Ayurveda, primary cancers which present as solid tumours are called as Arbuda, which is differentiated from Granthi, which is a non-cancerous lump.

Arbuda - derived from the Sanskrit - Arv Himsāyām means that which injures or kills. Arbuda also denotes a number - Arbudo Śatakoṭīṣu - Arbuda indicates hundred and ten million. Combining these two derivations of the sanskrit term, we can describe the etymological meaning of the term Arbuda as that which kills by becoming hundreds and millions in number.

Hematological malignancies which do not form solid tumours are discussed in Ayurveda under the broad disease category called Pāṇḍu, which represent a group of disorders presenting with anemia and pallor as the predominant symptom. Both Arbuda and Granthi develop from underlying chronic inflammation (Sopha).

Descriptions in Ayurvedic texts also indicate that other pathologies like gulma (abdominal polyps), śoṭha (inflammation and swelling), visarpa (quick spreading skin lesions), vidradhi (abscess) and so on can develop into cancer.

Epidemiology

From an Ayurvedic point of view, Cancer is triggered by Vāta which provokes multiplication or Vibhāga. However, the substratum of cancer is Kapha and only if there is derangement of Kapha, Vāta can trigger the process of carcinogenesis. In young children Kapha is in its normal state and strongest and for this reason, childhood cancers are comparatively rare and easier to treat, of course, with the exceptions. On the other hand, ageing is a high risk for development of cancer because there is not only increase of Vāta but also decline and weakening of Kapha. This makes old people more susceptible to cancer. Certain cancers like breast cancer are reported to be more aggressive in young adults in which age, pitta is more dominant.

Etiology – causative factors (Nidan)

A combination of psychological, lifestyle and dietary factors including constitutional and genetic predisposition

Psychological – mental

Excessive fear and feelings of insecurity can lead to aggravation of Vāta which can trigger the process of formation of Arbuda.

Behavior – routine

Māmsadhātu and Raktadhātu are involved in the pathogenesis of Arbuda. Lack of exercise and compromised blood circulation can cause stagnation of prāṇa and lead to accumulation of ama

and chronic Sopha or inflammation. Lack of periodical cleansing can cause āma to become Īna in the dhātus and this can provoke the development of Arbuda.

Diet, digestion

Foods that aggravate Vāta and Pitta can cause utkleśa of kapha, which if taken over a long period of time can lead to deposition of Āma in the dhātus triggering chronic inflammation or śopha.

Environment

Excessive exposure to sun, smoke, pollutants, toxins.

Genetics

It is possible from an Ayurvedic point of view that diseases like cancer could be Ādibalapravrittavyādhi (having genetic origins) and can be inherited from the mother or father. There is no explicit reference to Arbuda or Granthi being of genetic origin in classical Ayurvedic texts.

Pathogenesis (origin and development of the disease)

Arbuda is caused by doṣasammūrchana in different parts of the body (gātrapradeśe kvacidewa doṣāḥ sammūrchitāḥ), māṃsa and rakta are especially affected (māṃsamasṛk pradūṣya), leading to formation of hard, painless and huge lumps (vṛttaṃ sthiraṃ mandarujaṃ mahāntaṃ), with penetrating roots (anālpamūlaṃ), growing slowly (ciravṛddhi) and not suppurating or bursting open (apākaṃ) growths that go deep inside (kurvanti māmsocchrayamatyagādhaṃ).

Chronic accumulation of āma in the Īnāvasthā (dormant and deeprooted) in the dhātus triggering inflammation or Sopha that is chronic is the predisposing factor for development of Arbuda. Lack of healthy routine, lifestyle and diet and exposure to triggering factors in the background of genetic disposition leads to the development of Arbuda.

Pathophysiology (physiological process associated with the disease)

Samprāpti:

Continuous irritation of dhātu (various cells, tissues and organs) under the influence of uṣṇarūkṣa guṇa (irritating substances) leads to depletion of Ojas and increase of vāta. The aggravated vāta begins to cause multiplication of jīvaparamāṇus (the biological units of life) in the sites where kapha is dominant in the body like the māṃsadhātu. In the early stages of tumour, we can see the involvement of Vāta and Kapha, the irritated Vāta causing the multiplication and increase of Kapha. It is the Vātakapha combination that makes tumours to grow slowly but also to large sizes without suppurating or bursting. After a certain stage of development, pitta also gets aggravated and now the tumour can become aggressive. It can burst open and also spread (visarpaṇa) to other parts of the body. The appearance of tumors in more than one location is called as dvirarbuda, which is perhaps a very early reference to metastasis. The dvirarbuda can occur simultaneously (yugapad) or in due course (cirādvā). The following points emerge from the descriptions of arbuda in the classical texts of Ayurveda.

Slow and silent growth - ciravṛddhi, apāka

Local spreading of the growth and rooting - anālpamūla

Fixation - kṛtamūlatva, acālyā

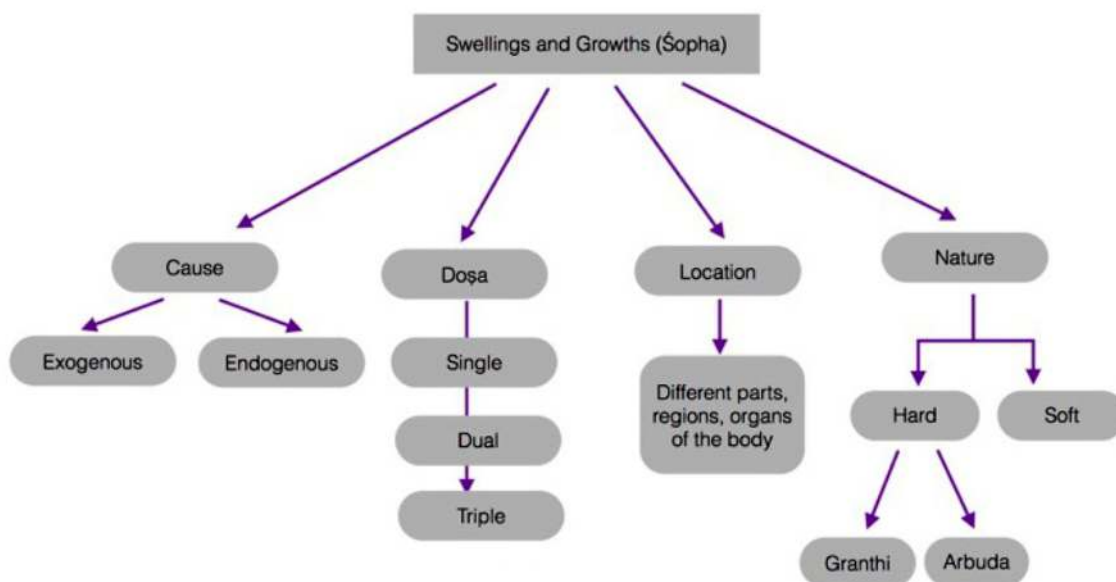
Spreading - mahāvāstuparigraha, atyagādhā, analpamūlatva

Ulcerating - saṃprasruta

Recurrence - adhyarbuda

Metastasis – dvirarbuda

There are indications that we get from the texts that arbuda is a secondary outcome of a chronic inflammatory pathology. Broadly speaking arbuda and granthi come under the category of diseases grouped under the heading śopha. Śopha can be loosely translated as inflammation, swelling. This is perhaps an indication that śopha especially when it persists in chronic form predisposes the individual to develop arbuda. In the context of the treatment of vātarakta, a chronic inflammatory disease affecting the joints of the body, it has been mentioned that arbuda can manifest as a complication.



Arbuda is classified in Ayurveda on the basis of the predominant doṣa and also on the basis of the dhatu involved. Thus, we have vātārbuda, pittārbuda and kaphārbuda as well as māmsārbuda, raktarbuda and medorbuda.

Diagnosis

The observations in the texts differentiating between granthi and arbuda are very interesting. Caraka distinguishes granthi from arbuda by the presence of a capsule. In other words, granthi is encapsulated while arbuda is not. When a granthi is surgically removed, Caraka emphasises that it should be removed along with the capsule to prevent recurrence. Diagnosis of Arbuda in Ayurveda is clinical and has limitations. Any lump that has been persistent for a long period of time or suddenly starts to grow aggressively is clinically examined and distinguished from Granthi by the absence of a capsule but at the same time being fixed and deep rooted.

Clinical examination

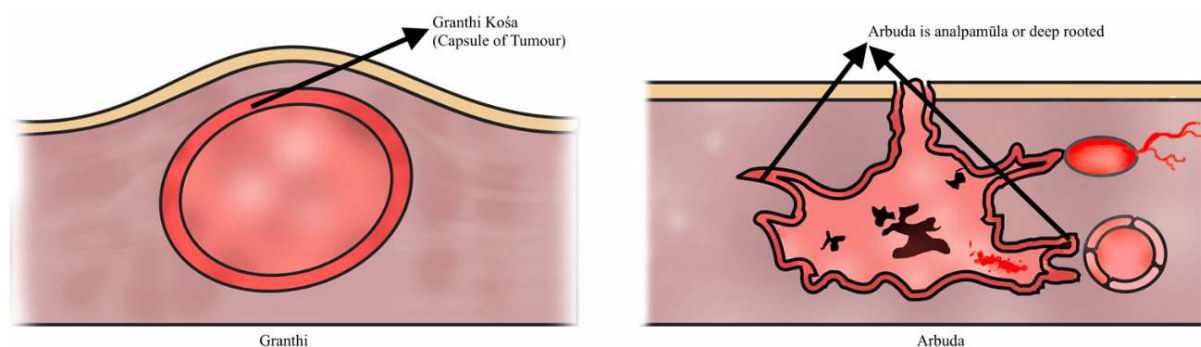
Clinical examination involves inspection and palpation. The nature of the lump and its penetration are studied by close examination. The temperature of the tumour indicative high metabolic activity is also a sign that points to the possibility of Arbuda according to traditional physicians. Pulse examination is also done to confirm the involvement of tridoṣas and impairment of agni. The study of arbuda seems to have been a specialized engagement for the physicians of Ayurveda. Suśruta mentions a term arbudajña, which means those who were having specialized knowledge about arbuda. This is akin to the modern term oncologist.

Investigations (Ashtasthana Pariksha)

The pulse, urine, feces, tongue, appearance, skin, eyes and physique are studied to understand the degree of impairment of doṣas, dhātus, agni and Ojas.

Differential diagnosis

Together, the terms arbuda and granthi seems to represent tumour forming pathologies that have been described in the earliest text books of Ayurveda. Granthi is a growth, a swelling with a knotted appearance. On the other hand, arbuda is a more dangerous type of growth that can hurt or kill the individual. For that matter, it seems that Ayurveda did not group all cancers under a



single heading. For instance, certain stages of diseases like gulma, pāṇḍu and vidradhi seem to resemble cancer. There is an opinion amongst Ayurvedic physicians that the cancers of the blood correlate with some presentations of pāṇḍu. It is not easy to judge on the basis of textual descriptions whether the above mentioned diseases relate to cancer in the way it is understood today. There is a disease known as valmīka described in the later texts of Ayurveda that seems to match the description of cancer. In the Siddha system of medicine, this is known as Puttru, which means the same as valmīka. Siddha physicians equate cancer with Puttru Noi. However, conditions like gulma, pāṇḍu, vidradhi and valmīka cannot be definitely correlated with cancer.

Course and Prognosis

As it progresses, it can consolidate itself locally over a large area (kṛtamūla) and become fixed (acālya), which indicates a bad prognosis. An arbuda is especially difficult to manage if it manifests in a vital organ (marma) or a vital channel (srotas). An arbuda can recur on the same site again even after treatment (adhyarbuda) or manifest in another location (dvirarbuda). Adhyarbuda obviously refers to relapse of the cancer at the same site. According to Suśruta, if an arbuda is not removed completely through a surgical procedure, it will recur again quickly in a very aggressive manner and kill the person like fire. Some types of Arbuda like medorbuda are considered to be difficult to cure.

Scope of treatment and prevention

Ayurvedic management of cancer is multi pronged. The scope ranges from prevention to cure to palliative care. Ayurvedic treatments include diet, lifestyle, rasayana (immunomodulators, DNA repair) and biocleansing. Some of the mechanisms involved could be triggering cell apoptosis and senescence. After surgical removal of tumours, potent herbs and other medications could be used to prevent recurrence.

Ayurvedic treatments may also empower the body to recognise and deal with cancer cells, reduce the tumour burden and enable people to learn to live with cancer. Ayurvedic treatments can also serve as adjuvants to chemotherapy. Ayurveda could offer interventions for radio-sensitisation and radioprotection.

Ayurveda clinicians are already offering care for cancer patients. We will discuss some of these treatments in the lecture. These encounters have not been properly documented and studied. The starting point could be the point of care itself. Documentation of clinical practice outcomes will help in understanding the scope and limitations of traditional medicine in cancer care. There is a need to develop Integrative Treatment Guidelines so that Oncologists and practitioners of traditional medicine can work together to deliver cancer care. We need to identify the entry points where the scope traditional medicine can be explored. From the Ayurvedic perspective, adopting a healthy lifestyle in accordance with one's constitution and following the daily and seasonal regimens as well as healthy diet can help to preserve the agni and keep the srotases patent. As śotha or inflammation is considered to be an underlying cause for Arbuda, periodical cleansing like pañcakarma followed by rasāyana will help to strengthen the dhātus and prevent dhātuduṣṭi.