

A Birds View On Ayurvedic Concept Of Arbuda Vis-À-Vis Cancer

Dr.Namratha.M¹, Dr.Rajesh.A.Udapudi², Dr.Beena.M.D³, Dr.Mahantagouda Shivanna Sasanoor⁴, Dr.Spoorthi.S.N⁵

¹Final year PG Scholar, Department of PG studies in Kayachikitsa, JSS Ayurveda Medical College, Mysuru

²Professor and Head, Department of PG studies in Kayachikitsa, JSS Ayurveda Medical College, Mysuru

³Professor, Department of PG studies in Kayachikitsa, JSS Ayurveda Medical College, Mysuru

⁴Second year PG Scholar, Department of PG studies in Kayachikitsa, JSS Ayurveda Medical College, Mysuru

⁵First year PG Scholar, Department of PG studies in Kayachikitsa, JSS Ayurveda Medical College, Mysuru

ABSTRACT

Ayurveda being an ancient system of medicine it offers a distinct framework for understanding and managing various diseases, including Cancer. In *Ayurveda*, Cancer is conceptualized through various traditional terms and principles that reflect a holistic approach to health. *Ayurvedic* perspective on Cancer primarily revolves around the concept of *Arbuda* and the imbalance of the doshas, wherein it is associated with an imbalance in three dosha. Particularly, an excess of *Kapha dosha* is believed to contribute to the formation of abnormal masses or tumour's, akin to cancerous growths. This imbalance leads to the accumulation of morbid tissues and toxins in the body, disrupting the normal function of organs and tissues. The progression of these growths is thought to be influenced by factors such as diet, lifestyle, and emotional stress, which can exacerbate the disease. *Ayurvedic* texts describe Cancer-like conditions with characteristics such as irregular growth patterns, hardness, and invasiveness, which align with modern understandings of malignancies. *Ayurvedic* approach to cancer treatment focuses on restoring dosha balance, detoxifying the body, and strengthening the immune system. This involves a combination of dietary changes, herbal remedies, and therapeutic practices like *Panchakarma*, a detoxification regimen that aims to eliminate accumulated toxins and rejuvenate the body.

KEYWORDS: *Arbuda*, Cancer, *Shamana Chikitsa*, *Shodhana Chikitsa*, *Rasayana*

INTRODUCTION:

Cancer is as a mass of tissue formed because of abnormal, excessive, uncoordinated, autonomous, and purposeless proliferation of cells.¹

Cancer is a term used in modern medicine to describe a pathological status of a tissue of a particular part or system and not a disease by itself.^{2,3} It can affect any part of the body,⁴ hence, it will be wrong to correlate it with any single disease mentioned in *Ayurveda* but most of the features goes in favour with the disease '*Arbuda*'.

Etymologically the word '*Arbuda*' represents an enormously growing mass encroaching and destroying the normal structural and functional status of an organ and on a larger scale the entire human body.⁵

Definition describes '*Arbuda*' has a swelling occurring anywhere in the body due to vitiation of *tridoshas*, afflicting the *mamsadhatu*, which is circular, fixed and firm, slightly painful, big, or wide spread, deep seated, slowly growing, and non-suppurative.⁶

DIFFERENT VIEWS ON ARBUDA

The lakshanas of *Arbuda* in general are like those of *Granthi*,⁷ the only difference being the size and consistency. In *Granthi* the main feature is *Vigrathitwa*⁸ means *Atyartha Kathina* means strong knot like consistency.

Arbuda is *Mahan* and *Analpamoola* (i.e. big and deep rooted compared to *Granthi*) more dangerous type of growth that can hurt or kill the individual as it is mentioned as "*Arv-Himasayam*"⁹ and that which can grow by multiples of hundreds of crores (*Shatakoti Sankhya*)¹⁰. Thus, the terms *Arbuda* and *Granthi* seems to represent tumour forming pathologies that have been described in the earliest text books of *Ayurveda*.¹¹

It is interested to note the differentiating features between *Granthi* and *Arbuda*. *Charaka* distinguishes *Granthi* from *Arbuda* by the presence of a capsule (*sakosha*). In other words, *Granthi* is encapsulated while *Arbuda* is not. When a *Granthi* is surgically removed, *Charaka* emphasizes that it should be removed along with the capsule to prevent recurrence¹².

Sushruta describes *Arbuda* as a slowly progressing growth (*Chiravridhi*)¹³, which can then take on a rapid course when it begins to ulcerate and spread. Because of the predominant involvement of *Kapha dosha* and *Medo dhatu*¹⁴ the disease is silent and slow in the initial phase.

Regarding the prognosis *Suśruta* points out that the *Arbuda* that ulcerates and oozes (*Samprasrutam*) cannot be treated. So also that which is growing in a vital organ (*Marmani jatam*) or major channels (*Srotasu jatam*) and those that are immovable (*Achalyam*).¹⁵

The recurrence of Arbuda at the same site of the previous growth or its simultaneous or later occurrence at another location have been explicitly mentioned by Suśruta indicating that he was aware of the recurrence and metastasis of malignant tumours. Also Dvirarbuda (formation of two *Arbuda*'s) is specifically mentioned as incurable.

Based on the clinical presentations in relation to different organs and systems involved - its cause, prognosis and treatment, various other diseases described in Ayurvedic classics may be considered as malignant eg., if it affects the pranavaha srotas - kshataja kasa, when it affects the yakrit and pleeha - yakritodara and pleehodara, when affects the annavaha srotas – gulma. etc.

Acharya Charka has described Arbuda as a complication of Vata-Rakta¹⁶. Acharya Vagbhata noted that Arbuda is relatively bigger than Granthi.

Acharya Madhava while describing the definition of Arbuda opines that the vitiated Dosha afflict the Mamsa and Rakta both to produce a swelling¹⁷. Bhavaprakasha and Sharangdhara have similar opinion as that of Madhavakara regarding the definition of Arbuda.

Hence it can be considered that the disease begins in the form of Shotha (swelling) and with the span of time gets converted to Arbuda.

NIRUKTI

The word Arbuda denotes masculine as well as neuter genders. It is derived from the root 'Arb'. Arb (va) Himasane.....| Arvati | Arv Himsayam || Amarakosha 3/5/33 Arb – Himse..... Arbudaha..... (Arbb + Vich, Tasmai Udeti) || Shabdakalpadruma

The above lexicons give the exact picture of the disease – the condition which develops from himsa ie., harm, injury or killing. And 'aram bundati, ubindar' which is perceived very fast (grows very fast).¹⁸

Based on above derivation, it can be said that Arbuda is a disease which grows very fast and causes either destruction of local tissues or body part or even death.

Arbuda is having following meanings in different contexts.

- It is a type of gulma
- One hundred millions
- Denotes a tree
- Type of disease
- Type of eye disease

According to V.S. Apte and William Monniare – Sanskrit-English Dictionary¹⁹

Arbuda denotes - A swelling, a tumor

- One hundred millions
- A disease process
- Name of the mountain in western part of India
- A serpent
- A serpent like demon killed by Indra
- A cloud
- A long round mass
- A polyp
- A long round mass (especially of the 2nd month of fetus)

From the above mentioned various meanings of the word Arbuda, we can consider it as; A disease process and one hundred million – indicates the excessive growth of cells in the body, which is having a parallel condition in modern medical science as cancer or neoplasia. Also the meaning of Arbuda to serpent can be taken in the sense of its fast spreading nature, aggressiveness and dreadfulness

PARIBHASHA

Acharya Sushruta defines Arbuda as ; The doshas having vitiated in any part of the body and afflicting the mamsa and produce a swelling, which is circular, fixed, slightly painful, big or widespread, deep seated, slowly growing and non-suppurative.²⁰

According to Madhava nidana, we get the following explanations²¹

Gatrapradeshe kwachitaha - Anywhere in the body

Sammoorchitaha Sammoorchitaha vriddhaha , dooshya samsrishta - The increased and vitiated doshas along with dooshyas

Mamsamasrik pradoosha iti sarvaarbuda sadharanam dooshyam -Means mamsa and rakta are samanya dooshya for all types of arbudas.

Mamsaarbua medo arbudayostu visheshena maamsa dushtihi -But in mamsarbuda and medoarbuda, the involvement of mamsa is more.

Mamsaarbuda medo arbudayorapi tadadooshako dosho asti - But in above conditions for the dooshana the doshas are important factors than dooshyas.

Tena tatraapi dosha kartrutaya sampraptiriyam bhavati - Hence doshas are important for the samprapti (pathogenesis)

Vrittam, sthiram -The growth is round and stony hard

Mandarujam - Having dull pain

Mahantam - Wide spread

Analpamoolam - Deep rooted

Chiravridi - Slowly growing, chronic

Apaakam - Non suppurative

Maamsopacchriyam - Formation of mamsankura / it can be taken as abnormal proliferation of mamsadhatu.

Athyagaadham – Athyagaadhamiti dooraanupravishtam - Deep seated, having spreaded to other parts of the body (Metastases).

The above paribhashas of Arbuda represents that, Arbuda is an enormously growing mass, encroaching and destroying the normal structures and functional status of an organ and in a long run it spreads to the other parts of the body (Dooraanupravishtam), affecting the entire human systems. All these features are resembled with the nature of Cancer or malignant condition described in modern medical science.

ARBUDA BHEDA

Table No. 1. Classification of Arbuda according to different Authors

	Su. Sa	Vag	Ma.Ni	Sha. Sam	Bh. Pr.	Yo. Ra	Cha.Sam	Bela. Sam.	Ha. Sam
Vataja	+	+	+	+	+	+	+	+	+
Pittaja	+	+	+	+	+	+	+	+	+
Kaphaja	+	+	+	+	+	+	+	+	+
Mamsaja	+	+	+	+	+	+	+	+	+
Medoja	+	+	+	+	+	+	+	+	+
Raktaja	+	+	+	+	+	+	-	-	-
Siraja	-	-	-	-	-	-	+	-	-
Sannipataja	-	-	-	-	-	-	-	-	+

Table No.2. Classification of Other Varieties of Arbuda according to different Authors

Types	Su. Sam	A. Hr	A. Sam	Ma.Ni	Y.R.	Bhai.Ra
Sharkararbuda	+	+	+	-	+	+
Adhyarbuda	+	-	-	+	+	+
Dwirarbuda	+	-	-	+	+	+
Vartmarbuda	+	+	+	+	+	+
Nasarbuda	+	+	+	+	+	+
Karnarbuda	+	+	-	+	+	-
Talvarbuda	+	+	+	-	+	+
Galarbuda	+	+	+	-	+	+
Kapolarbuda	-	+	+	-	+	+
Oshtarbuda	-	+	+	-	+	+
Raktarbuda	-	+	+	-	+	+
Mamsarbuda	-	+	+	-	+	+
Medoarbuda	-	-	+	+	+	+
Raktarbuda	-	-	+	+	+	+
Mamsarbuda	-	-	+	+	+	+
Shirarbuda	-	-	+	-	-	-

NIDANA

Two types i.e; Samanya (general) and Vishesha (specific) nidana.

Samanya nidana is attributed to vitiation of tridoshas due to mithyahravivaha and specific nidana is attributed to vitiation of doshas and dhatus due to definitive causes. Specific nidana has been mentioned for mamsaja and raktaja arbuda.

Mamsaja Arbuda Nidana²²

- **Mushtipraharadi aghata** (repeated injuries / constant pressure / constant trauma) on the body parts.
- **Mamsa parayanasya** - excessive intake of mamsa regularly.

Due to the constant trauma on the body parts, the muscular tissue gets vitiated and undergoes transformation and grows into a tumor.

The excessive intake of mamsa regularly leads to the vitiation of mamsadhatu and results into mamsarbuda.

Raktaja Arbuda Nidana²³

The pittaprakopaka ahara and vihara leads to vitiation of pitta and rakta which in turn leads to raktaja arbuda.

The excited doshas (which tend to impair) affects the rakta and siras (blood and blood vessels) which by compressing and contracting bring about, slight transformation leading to formation of raktaja Arbuda. Gulma and Arbuda is also resulting as a upadrava in avarana vata,²⁴ Vatarakta,²⁵ and disease where in rakta is vitiated,²⁶ and also in Dooshivisha.²⁷

This clearly shows that some chronic disorders as mentioned above in long run may produce Arbuda / gulma (Malignant conditions). Similarly, in modern medicine also there are certain inflammatory and hyperplastic conditions which are prone to development of Cancer.

SAMANYA SAMPRAPTI OF ARBUDA

Regarding samprapti of Arbuda, Charaka writes that location, etiology, clinical features, and pathogenesis (samprapti) of both diseases (granthi and arbuda) are identical.

“Granthyarbudanam cha yato avisheshaha”

Aggravated doshas vitiating mamsa, getting localized in any part of the body, produce a local swelling of accumulated mamsa, specially deeper muscles, which is round, fixed, big, is associated with mild pain, has deep seated roots, increase gradually and never suppurates. Description of Arbuda immediately after apachi has been made, as both these have predominance of medas and kapha. It is included among disorders of vitiation of rakta, mamsa and medas.

Harita says that blood vessels, sprout either due to suppression of natural urges or jumping or from an ulcer, in other words due to above mentioned causes normal circulation is obstructed and new blood vessels come up, these newly formed vessels are again obstructed resulting into obstruction in the passage of blood. Due to this obstruction in flow blood, big and thick Arbuda develops.²⁸

Madhava Nidana and Bhavaprakasha following Sushruta include vitiation of rakta also along with mamsa and say that this protuberance of mamsa spreads very deeply in large area. Description of non-suppurating is given to differentiate it from granthi.

Yogaradnakara accepting above views says that it is soft, suppurates late and is not very deep. Arbuda is one of the disorder of vitiated mamsa and medas according to Charaka and Vagbhata.

VISHESHA SAMPRAPTI

Raktaja Arbuda

Vitiated dosha comprising and constricting the blood and blood vessels (siras) or else reaching blood vessels compressing and constricting the blood, produces fast growing muscular protuberance which either does not suppurate or has very little suppurating, is associated with moist discharges and is covered with muscular sprouts (mamsankura). There is continuous discharge of vitiated blood.

Dalhana and Gayadasa say that dosha itself getting elevated produced fast growing muscular lump (mamsa pindam), discharged blood comes from the blood vessels of lump, it is not due to suppuration.²⁹

Vagbhata says that vitiated Vata etc. doshas constrict and compress the blood of siras. This solidified or obstructed blood assuming the shape of lump of mamsa covered with muscular sprouts grows very fast. There is continuous and excessive discharge of abnormal blood. Indu says that fast growth is due to obstruction.

Regarding Samprapti of Arbuda ; Madhava Nidana, Bhava Prakasha and Yogaradnakara have almost similar opinion as that of Acharya Sushruta.

Mamsaja Arbuda

Mamsa vitiated due to trauma by fist (mushti), log or stick, produces painless, smooth, skin coloured, stones hard and fixed swelling which never suppurates. This disease often occurs in the persons having vitiation of mamsa due to consumption of excessive meat.

Regarding samprapti of mamsaja arbuda, identical description is available in Madhava Nidana, Bhavaprakasha and Yogarathnakara.

While commenting on samprapti of raktarbuda and mamsarbuda, Madhukosha gives explanation that, though rakta or mamsa are causative factors for respective arbudas, yet, for raktaja arbuda pitta and for mamsaja arbuda vata are responsible for their rogaarambhaka. It is just like ghrita-dugdha nyaya. That is as ghrita is always mixed with milk. Similarly pitta and vata are always associated with rakta and mamsa respectively.³⁰

POORVAROOPA

The poorva roopa for the Arbuda are not mentioned by Acharyas and even in contemporary science there is no mentioning of prodromal symptoms for Cancer, but are to be evaluated if symptoms persists more than two or three weeks.

ROOPA

The lakshana of Arbuda in general are similar to those of Granthi, the only difference being the size and consistency. In Granthi the main feature is vigrathitwa means strong knot like consistency. Arbuda is mahan and analpamoola (i.e. big and deep rooted compared to granthi). Doshas and dooshyas are same as that of Granthi. But there are certain differences in some type of Arbuda with regard to the nidana, samprapti and lakshanas (Raktarbuda and Mamsarbuda).

Samanya Lakshana of Arbuda³¹

- Vrittam
- Sthiram
- Mandarujam
- Mahantam
- Analpamoolam
- Chiravridi
- Apakam

Here shotha or shopha is the pratyatma lakshana of arbuda as told by Charaka, Sushruta and Vagbhata.

Vishishta Lakshana

Table No. 3. Showing the Vataja Arbuda Lakshana

Clinical Feature	Su.Sam.	Ma.Ni.	Bh.Pr.	Yo.Ra.	Bhai.Ra.	A.Hr.	Ch.Sam
Soocheevat peeda	+	+	+	+	+	+	-
Chedanavat peeda	+	+	+	+	+	-	-
Manthanavat peeda	+	+	+	+	+	-	-
Krishnavarna Granthi	+	+	+	+	+	-	-
Bastivat vridi	+	+	+	+	+	-	-
Swaccha sravayukta	+	+	+	+	+	-	-
Bhedava vat peeda	+	+	+	+	+	+	-

Table No.4 Showing the Pittaja Arbuda Lakshanas

Clinical feature	Su.Sam.	Ma.Ni.	Bh.Pr.	Yo.Ra.	Bhai.Ra.	A.Hr.	Ch.Sam
Daha	+	+	+	+	+	-	-
Santapa	+	+	+	+	+	-	-
Chedanavat peeda	+	+	+	+	+	-	-
Paka	+	+	+	+	+	+	-
Prajwalateeva anubhava	+	+	+	+	+	-	-
Raktavarna / peeta varna	+	+	+	+	+	-	-
Paakantara dahayukta peetavarna srava	+	+	+	+	+	+	-

Table No.5. Showing the Kaphaja Arbuda Lakshana

Clinical feature	Su.Sam.	Ma.Ni.	Bh.Pr.	Yo.Ra.	Bhai.Ra.	A.Hr.	Ch.Sam
Sheetasparsha	+	+	+	+	+	-	-
Twaksamanavarna	+	+	+	+	+	+	-
Alpeedayukta	+	+	+	+	+	+	-
Ateevakanduyukta	+	+	+	+	+	-	-
Pashanavat Katina	+	+	+	+	+	-	-
Chiravruidi	+	+	+	+	+	+	-
Swetavarna Pooyayukta	+	+	+	+	+	-	-

Table No. 6. Showing the Medoja Arbuda Lakshana

Clinical features	Su.Sam.	Ma.Ni.	Bh.Pr.	Yo.Ra.	Bhai.Ra.	A.Hr.	Ch.Sam
Shareera vriddikshayanusara vridi	+	+	+	+	+	-	-
Snigdha Granthi	+	+	+	+	+	+	-
Mahan gatra	+	+	+	+	+	-	-
Kandooyukta	+	+	+	+	+	-	-
Manda ruja	+	+	+	+	+	+	-
Tila taila or ghrita samana pooyasrava after paka	+	+	+	+	+	-	-

Table No.7. Showing the Raktaja Arbuda Lakshana

Clinical features	Su.Sam.	Ma.Ni.	Bh.Pr.	Yo.Ra.	Bhai.Ra.	A.Hr.	Ch.Sam
Alpa paka	+	+	+	+	+	-	-
Alpa srava	+	+	+	+	+	-	-
Mamsapinda	+	+	+	+	+	+	-
Mamsankura	+	+	+	+	+	+	-
Ashuvridi	+	+	+	+	+	-	-
Rudirapravritti	+	+	+	+	+	+	-

Table No. 8. Showing the Mamsaja Arbuda Lakshana

Clinical features	Su.Sam.	Ma.Ni.	Bh.Pr.	Yo.Ra.	Bhai.Ra.	A.Hr.	Ch.Sam
Shotha	+	+	+	+	+	-	-
Avedanam	+	+	+	+	+	-	-
Snigdha	+	+	+	+	+	-	-
Ananyavarna	+	+	+	+	+	-	-
Apaka	+	+	+	+	+	-	-
Katina	+	+	+	+	+	-	-
Achala	+	+	+	+	+	-	-
Shoppha	+	+	+	+	+	-	+

UPADRAVA

Sushruta mentioned pandu as upadrava for raktarbuda due to raktasrava.³²

Adhyarbuda and Dwirarbuda can also be taken under the heading of upadrava. This can be correlated to the secondaries.

SADHYASADHYATA

Sadhya Arbudas - Vataja Arbuda
 (chikitsa sadhya) - Pittaja Arbuda
 Kaphaja Arbuda
 Medoja Arbuda
 Asadhya Arbuda - Raktaja Arbuda
 -Mamsaja Arbuda

Even Sadhya Arbuda becomes Asadhya if the following conditions exist³³

- Samprasrutam - having continuous bleeding from Arbuda.
- Marmasthanasthita (or) sroto-sthita – the Arbuda which originates on vital parts of the body (or) of srotas.
- Achalya – immovable or stable.
- Adhyarbuda – the Arbuda which formed over the same site of previous Arbuda.

- Dwirarbuda – formation of two Arbuda's together (or) one over the other.

Harita says that constantly growing and round Arbuda are incurable.

Carcinoma in primary stage can be curable to a greater extent. But secondaries or the metastatic stage is incurable.

CHIKITS

According to Acharya Vagbhata³⁴,

In Apakwa:

Treatment is like that of sophia

Snehapana with ghrita made with bhruhati, chitraka, vyaghri and kana followed by virechana

Kalka application with teekshna dravyas

Swedhana and vimardhana should be done again and again mainly for vataja.

Jaloukacharana followed by Sheeta Veerya Dravya application for pittaja.

For kaphaja treatment is same as that of vataja .

In Pakwa :

Arbuda Should be removed by Shastra Chikitsa

Later raktasthambana Dravya prayoga and Agnikarma has to be applied.

Should not leave any remnant.

According to Sushruta³⁵,

VATAJA GRANTHI CHIKITSA:

Granthi produced by vata should be fermented by applying warm poultices prepared from seeds of karkaruka,ervaruka,narikela,priyala and panchagula nadi sweda, raktamokshana with shrunga and if not cured then Virechana with trivrit Sneha can be advised.

PITTAJA GRANTHI CHIKITSA :

Swedana with warm poultices.

Mrudu Virechana should be given.

Mardhana with leaves of udumbara, saka and gojihva and apply kalka of sarja rasa, priyangu, pattanga, lodhra, anjana, yastika, aragvada, gojihva, soma, Shyama mixed with honey.

KAPHAJA GRANTHI CHIKITSA :

Virechana followed by Rakthamokshana

Application of paultices prepared from excreta of dove and pigeon, kamsya nila, suka and langalaka, kakadani and gomutra should be applied over the tumour

Nispava, pinyaka and paste of kulattha added with more of meat and water of dadhi made as a nice paste and applied on the tumour so that flies will eat away the tumour

Should be scraped and cauterized.

MEDHAJA ARBUDA CHIKITSA :

Swedana - cut open and clean the blood and sutured.

Then sprinkle with powder of haridra, grihadhuma, lodra, pattanga, manashila and ala, then karanja taila mixed with honey applied to clean the wound.

DISCUSSION:

Ayurvedic classics were not unaware of the malignant disease. We get good amount of information about the understanding and interpretations regarding Cancer in the classics. Ayurvedic classics have remarkable similarities with modern interpretations of Cancer. However it is difficult to find a single comprehensive word in Ayurveda denoting a disease entity, which is fully comparable with concept of Cancer. In this context, appropriate reference must be made to a variety of diseases which have this specific feature of onset, growth, spread or manifestation. It includes Granthi, Apachi, Gulma, Udara, Gandamala, Vidradi and Dushtha Vrana. The benign forms of these diseases are likely to become malignant over a period where the standard treatments prove ineffective. Also, the sannipatika stages of many diseases which are said to be incurable by Acharyas can be comparable with the malignant conditions.

CONCLUSION:

To conclude the Ayurvedic concept of Arbuda enriches our understanding of tumor dynamics by providing a framework that connects bodily imbalances to pathological growths. Its holistic and integrative approach offers promising avenues for complementary Cancer care, highlighting the need for continued research and dialogue between traditional and modern

medical practices. Hence Integration of Ayurvedic principles with contemporary Oncology could offer a more comprehensive approach to Cancer care, emphasizing prevention, personalized treatment, and holistic well-being.

REFERENCES:

1. Harshamohan, text book of Pathology, jaypee brothers, New Delhi, 5th edition, 2006, chapter 8, page no. 197
2. Wu TJ, Schriml LM, Chen QR, Colbert M, Crichton DJ, Finney R, et al. Generating a focused view of disease ontology cancer terms for pan-cancer data integration and analysis. Database 2015;2015:bav032.
3. Biemar F, Foti M. Global progress against cancer-challenges and opportunities. Cancer Biol Med 2013;10:183-6
4. Chakraborty S, Rahman T. The difficulties in cancer treatment. Ecancermedicallscience 2012;6:ed16.
5. Vachaspati Bhattacharya (1970), Vachaspathyam, Vol.I, Varanasi, Chaukhamba Sanskrit Series, 3rd Edn.,
6. YT Acharya, Susruta samhita, Nidana Sthana, reprint edition2014, chaukhambha orientalia, Varanasi, chapter no. 11/13, page no. 312
7. YT Acharya, Susruta samhita, Nidana Sthana, reprint edition2014, chaukhambha orientalia, Varanasi, chapter no. 11/14, page no. 313
8. YT Acharya, Susruta samhita, Nibanda Sangraha Commentary, Nidana Sthana, reprint edition2014, chaukhambha orientalia, Varanasi, chapter no. 11/3, page no. 311
9. Shabdakalpadruma, Vol I, Raja Radha Kanta Deva, Chowkhamba Sanskrit Series Office, Reprint 2011, Page no. 108.
10. Shabdakalpadruma, Vol I, Raja Radha Kanta Deva, Chowkhamba Sanskrit Series Office, Reprint 2011, Page no. 108.
11. P Ram Manohar, Descriptions and Classification of Cancer in the Classical Ayurvedic Texts, Indian Journal of History of Science, 50.2 (2015) 187-195
12. R K Sharma & Bhagavan Dash, Charaka Samhita, Chikitsa Sthana, Vol.III, Reprint edition2018, Chowkhamba Sanskrit Series Office, Varanasi, Chapter no.12/82, page no.509.
13. YT Acharya, Susruta samhita, Nibanda Sangraha Commentary, Nidana Sthana, reprint edition2014, chaukhambha orientalia, Varanasi, chapter no. 11/13, page no. 312
14. YT Acharya, Susruta samhita, Nidana Sthana, reprint edition2014, chaukhambha orientalia, Varanasi, chapter no. 11/13, page no. 313
15. YT Acharya, Susruta samhita, Nidana Sthana, reprint edition2014, chaukhambha orientalia, Varanasi, chapter no. 11/14, page no. 313
16. Agnivesha, Charaka, Dridhabala, Chakrapanidatta, Charak Samhita, chikitsa Sthana, 29/32,33, edited by YT Acharya, Chaukhamba Surabharati Prakashan, Varanasi, 2008;page no.629
17. Madhavakara, Madhava Nidana, Madhukosha Commentary of Vijayarakshita and Srikantadatta, Vidyotini Hindi Commentary edited by Prof. Yadunandana Upadhyaya, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 29th Edn.2000, page no.72
18. Shabdakalpadruma, Vol I, Raja Radha Kanta Deva, Chowkhamba Sanskrit Series Office, Reprint 2011, Page no. 108.
19. Vaman Shivaram Apte, Sanskrit – English Dictionary, Published by Motilal Banarasi Das, New Delhi, 2nd Edn., 1997.
20. YT Acharya, Susruta samhita, Nibanda Sangraha Commentary, Nidana Sthana, reprint edition2014, chaukhambha orientalia, Varanasi, chapter no. 11/13, page no. 312
21. Madhavakara, Madhava Nidana, Madhukosha Commentary of Vijayarakshita and Srikantadatta, Vidyotini Hindi Commentary edited by Prof. Yadunandana Upadhyaya, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 29th Edn.2000, page no.72
22. YT Acharya, Susruta samhita, Nidana Sthana, reprint edition2014, chaukhambha orientalia, Varanasi, chapter no. 11/17-18, page no. 313
23. YT Acharya, Susruta samhita, Nidana Sthana, reprint edition2014, chaukhambha orientalia, Varanasi, chapter no. 11/15-16, page no. 313
24. Vagbhata, Sarvanga Sundara of Arunadatta, edited by Bhishagacharya Harishastri Paradakara Vaidya, Nidana Sthana, 16/58, Chaukhambha Orientalia, Varanasi, Reprint, 10th edn., 2019, page no. 541
25. Agnivesha, Charaka, Dridhabala, Chakrapanidatta, Charak Samhita, chikitsa Sthana, 29/32,33, edited by YT Acharya, Chaukhamba Surabharati Prakashan, Varanasi, 2008; page no.629
26. Vagbhata, Sarvanga Sundara of Arunadatta, edited by Bhishagacharya Harishastri Paradakara Vaidya, Sutra Sthana, 27/2,3, Chaukhambha Orientalia, Varanasi, Reprint, 10th edn., 2019, page no. 326
27. Vagbhata, Sarvanga Sundara of Arunadatta, edited by Bhishagacharya Harishastri Paradakara Vaidya, Uttara Sthana, 35/35, Chaukhambha Orientalia, Varanasi, Reprint, 10th edn., 2019, page no. 905
28. Harita Samhita, Nirmala Hindi Commemetary, edited by Vaidya Jaymini Pandey, Triteeya Sthana, Chaukhambha Visvabharati, Varanasi, First edition, 37/1, 2010, 268
29. YT Acharya, Susruta samhita, Nidana Sthana, Nyaya Chandrika commentary, reprint edition2014, chaukhambha orientalia, Varanasi, chapter no. 11/15-16, page no. 313
30. Madhavakara, Madhava Nidana, Madhukosha Commentary of Vijayarakshita and Srikantadatta, Vidyotini Hindi Commentary edited by Prof. Yadunandana Upadhyaya, Galagandadi Nidana, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 29th Edn.2000, 38/22,23,page no.75



31. YT Acharya, Susruta samhita, Nidana Sthana, Nyaya Chandrika commentary, reprint edition 2014, chaukhambha orientalia, Varanasi, chapter no. 11/21, page no. 313
32. YT Acharya, Susruta samhita, Nibanda Sangraha Commentary, Nidana Sthana, reprint edition 2014, chaukhambha orientalia, Varanasi, chapter no. 11/16, page no. 313
33. YT Acharya, Susruta samhita, Nibanda Sangraha Commentary, Nidana Sthana, reprint edition 2014, chaukhambha orientalia, Varanasi, chapter no. 11/19,20, page no. 313
34. Tripathi B, Astanga hrudaya, Granthi sleepada aapachi nadi vidnyaniya 29/14-edition 2009-page no.432
35. Shastri AD Sushruta, Susruta Samhita, Ayurvedatva sandipika Hindi commentary chikitsasthana 18/32 Varanasi; Chaukhamba Sanskrit samsthana-edition-2007-page no.371
