

REVIEW ON ARBUDAHARA YOGAS MENTIONED IN AYURVEDIC LITERATURE

¹Dr.Swathi.D.S, ^{2*}Dr.Satish Pai, ³Dr.Abhishek.B.D.

¹PG Scholar, Dept. of PG Studies in DravyaguanaVijnana, JSSAMC,Mysuru

²Professor and Head, ³PG Scholar, Dept. of PG Studies in DravyaguanaVijnana, JSSAMC,Mysuru-Karnataka

ABSTRACT

Cancer has been one of the major causes for death worldwide. It is defined as the abnormal growth of cells in the body either benign or malignant. Various causative factors like genetics, environmental factors, stress are attributed for occurrence of the disease. The etio-pathogenesis of cancer mainly involves uncontrolled apoptosis in the cellular level and depleting immunity in the body. Cancer has been treated by different medical systems with different modalities. Conventional system mainly focuses on immune-suppressant medications, chemotherapy and radiation therapies. There are novel therapies which have come-up for the treatment in modern medicines, which are under screening for their effectiveness in managing cancer. Ayurveda has got promising answers for treating cancer as primary or complimentary therapy with different modalities at various stages. In Ayurveda, it is considered as *Arbuda* and also known with other terminologies like *Granthi* and *Apachi*, which means extra growth. Ayurvedic yogas mentioned for *Arbuda* aims at maintaining the immunity of patient and does *lekhana* and *karshana* action necessary for managing *Arbuda*.

KEYWORDS: Cancer, *Arbuda*, *Granthi*, *Apachi*, immune-suppressant

INTRODUCTION

Cancer is defined as an enormously grown mass, encroaching and destroying the normal structure and functional status of an organ. In long run, it spreads to other parts of the body affecting the entire human systems. The study of tumors is known as oncology. Cancer/ carcinoma are the common term for all malignant tumors. It is probably derived from Latin for the word 'crab'. Cancer- presumably because a cancer "adheres to any part of that, it seizes upon in

an obstinate manner like a crab"¹

Etiology:²

Exact cause of cancer is unknown. All available evidences indicate that malignant transformation of cells may result from complex interaction factors like genetic predisposition, chemical and physical carcinogens, viruses, radiation, immune depletion, rapid tissue proliferation, hormone changes, diet, emotion etc. Cancer is the end product of multistep

process. For those working in the genetics are convinced that genetic mutations are the primary factors in cancer etiology.

The pathophysiology of cancer involves several stages. The first stage is initiation, where a mutation occurs in a cell's DNA, leading to the activation of oncogenes (genes that promote cell growth) or the inactivation of tumor suppressor genes (genes that inhibit cell growth). The second stage is promotion, where the mutated cells are stimulated to divide and grow rapidly, forming a small cluster of abnormal cells. The third stage is progression, where the abnormal cell continue to divide and grow, forming a tumor that can invade surrounding tissues and spread to other parts of the body through the bloodstream or lymphatic system³.

In Ayurveda the normal functioning in body is attributed to proper functioning of *dosha*, *dooshya* and *mala*. Any abnormality in its functioning, leads to disease. There is no clear explanation about the disease cancer in Ayurveda but references are available about *Arbuda*, *Granthi* etc. *Acharya Sushruta* defines *Arbuda* as the *Doshas* having vitiated in any part of the body and afflicting the *mamsa* producing a swelling which is circular, fixed, slightly painful, big or widespread, deep-seated, slowly growing

and non-supportive⁴. The *Paribhasha* 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 other part of the body (*dooraanupravishtam*), affecting the entire human system. All these features resemble with the nature of cancer or malignant condition described in modern medical science. *Arbuda* can be used synonymously with *Granthi*, *Apachi*⁵. There are differences of opinion in classification of *Arbuda*. *Vataja*, *Pittaja*, *Kaphaja*, *Medaja*, *Mamsaja*, and *Raktaja* has been told by *Bhrihatrayee*⁶ and *Laghu trayee*. And *Acharya Charaka* mentions *Siraja* instead of *Raktaja Arbuda*⁷ *Agni* or *pitta* is considered as prime factor for digestion and metabolism in the body. In *Arbuda*, decreased state of *dhatwagni* is resulting in the excessive growth of *dhatu* like *rakta*, *mamsa* and *meda*.⁸

Vitiation of *dosha* along with decreased immunity in a patient is responsible for occurrence of disease. *Vata dosa* is responsible for “*Vayur Vibhajati*” ie proliferation or growth of abnormal cells with respect to *Arbuda*. The *agni* is responsible for *pachana* i.e. “*Tejonamam pachati*”. So, *agni* of proliferating cells must be curbed and *vatahara* and *ojo vardhakara* line of treatment may be employed as line of

treatment in *Arbuda*⁹. In Ayurveda, *Chikitsa* depends upon *vyadhi bala* and *rogi bala*. The patient's *vyadhikshamatva* or natural resistance to disease is one to be preserved to arrest the progress of the disease¹⁰. Concept of *vyadhi kshamatva* include *vyadhi utpadaka pratibandhakatwa* i.e capability to prevent onset of disease; and *vyadhi bala virodhitwa* which fight against developing diseases¹¹. *Ojas* also plays main role in imparting strength to the patient. One could enhance *vyadhikshamatva* and *ojas* to fight effectively against the disease by taking appropriate medicines. The approach to a patient varies according to *prakriti*, *vyadhi avastha*, *bala* of *rogi* etc. Hence, Ayurveda enumerate multiple formulations to be chosen according to the condition. The patients *agni* and *bala* is hampered in *Arbuda*. Functioning of *Agni* is the prime factor to be ensured prior to any treatment. General line of treatment for *Arbuda* is *shodhana chikita*, *dhatwagni chikitsa*, *rasayana prayoga*, *vyadhipratyaneeka chikitsa*, *lakshanika chikitsa* and *shastra chikitsa*¹². According to *bala* of the patient *kshara*, *agni* or *shastrakarma prayoga* is done¹³.

Further *Acharya Sushruta* have mentioned *swedana*, *upanaha*, *raktamokshana* and *virechana* with *vatahara dravya sidda ghruta*, in *vataj Arbuda*; *mrudu swedana*,

upanaha, *virechana*, *gharshana* and *lepa* in *pittajArbuda*; *shodhana*, *raktamokshana*, *upanaha*, *krimi chikitsa* and *vranopachara* in *kaphaj Arbuda*; *swedana*, *vidarana* and *vrana chikitsa* in *medaj Arbuda*¹⁴

Various Ayurvedic texts have quoted multiple formulations for management of *Arbuda*. They possess properties of *tridoshaghna*, *karshana* of *Arbuda* and *rasayana*. The *Arbudahara yogas* told in classics are enlisted as below.

Classical *Yogas* which are indicated in *Arbuda*.

- *Khadirarishta*¹⁵
- *Chandraprabha vati*¹⁶
- *Kanchanara guggulu*¹⁷
- *Triphala ghrutha*¹⁸
- *Panchatikta guggulu ghritha*¹⁹
- *Madhusnuhi rasayana*²⁰
- *Shivagutika*²¹

Khadirarishta

The ingredients present are *Khadira*, *Devadaru*, *Bakuchi*, *Triphala*, *Makshika*, *Sharkara*, *Dhataki*, *Kankola*, *Jatiphala*, *Chaturjata*, *Lavanga*, *Pippali*. Many among these are having anticancerous activities like *Khadira*²²(catechins), *Vasa* (vasicine)²³, *Devadaru*, *Bakuchi* (Psoralen)²⁴, *Daruharidra* (berberine), *Jatiphala* (myristicin), *Lavanga* (eugenol)²⁵, and *Pippali* (piperine)²⁶ by inducing apoptosis and inhibit cancer cell growth.

Chandraprabha Vati

The composition of *Shilajithu, Guggulu, Sita, Loha bhasma, Danti, Trivrut, Trijata, Vamshalochana, Shadushana, Triphala, Gajapippali, Makshikadhatu bhasma* etc. *Shilajitu* (Fulvic acid)²⁷ have anti-oxidant properties, *guggulu*²⁸ (guggulusterone) *danti*(diterpenes),²⁹ *trivrut* (turpethum),³⁰ also have also shown anti cancerous activities.

Kanchanara guggulu

The composition of *Kanchanara guggulu* are *Kanchanara, Guggulu, Trikatu, Triphala, Varuna* etc. Among these *kanchanara* is supportive to lymphatic health and has influence on cell growth and immune function. *Triphala* and *varuna*³¹ has shown is anticancerous effect.

Triphala ghrutha

Main ingredients are *Triphala, ghritha, ksheera, haridra* etc. *Triphala*³² and *haridra*³³ have shown anti-cancerous activity in many researches.

Panchatikta guggulu ghritha

Major components are *Tikta panchaka kashaya, ghritha, guggulu* etc.

Madhusnuhi rasayana

Major ingredients are *Madhusnuhi, Guggulu, Gandhaka, ghritha, sharkara, Madhu* etc. *Madhusnuhi* is known to have anti-cancerous activity. Researches show that *madhusnuhi i. e chopachini* inhibits cancer cell growth.

Shivagutika

It comprises of *Shilajithu, sharkara, Madhu, Ghrita, talisapatra, Chaturjata, trikatu, Karkatashringi, Amla, Dashamula kashaya, guduchi kashaya, patola kashaya, bala kashaya, Kashaya of yashimadhu, gomutra, kakolidwaya, shalaparni, prishna parni, meda, maha meda, musta, chitrakamula, rasna, vidari, ksheeravidari, danti, patha* etc.

DISCUSSION

Cancer is a challenging medical condition which is prevailing with less cost effective treatments and deteriorating quality of life. Though many methodologies have been adopted for treating it, yet the prevalence and sufferings remain same. So, integrated approach of Ayurveda therapy with existing conventional mode of treatment will be a boon to mankind.

In Ayurveda the treatment is adopted according to the *doshic* vitiation in a patient and *vyadhihara chikitsa* is prescribed accordingly. Similarly in *Arbuda* along with *vydhihara chikitsa, dosahara chikitsa* should be adopted according to the *vyadi avastha*.

In *Khadirarishta*, main ingredient used is *khadira* and *devadaru*. It is mentioned as best *kushtaghna dravya* in *agryaoushadha* by Acharya Charaka³⁴ The yoga being *Kashaya, Tikta rasa pradhana, sheeta veerya and katu vipaka* is *vata kapha hara*. Clinically it is used in skin ailments and

respiratory issues. There are many clinical trials which have proven its effects for many skin ailments but few researches regarding its efficacy with other formulations in *Arbuda*. Monga et al. (2011) have conducted a series of studies clearly demonstrating the chemoprotective and cancer- preventive activities of the *Acacia catechu* heartwood extract, and providing much information on the antioxidant activity associated therewith. *Acacia catechu* extracts have been shown to exhibit antineoplastic and antiproliferative activities (Nadumane, 2011).³⁵

Chandrprabha vati mainly contains *Shilajithu* and *Guggulu*. Other ingredients used are predominantly *katu* and *tikta in rasa*, *laghu* and *ruksha guna*, *ushna* in *virya*, *katu* in *vipaka* and *Vatakaphapradhana* and *tridoshashamaka*.³⁶ It is explained under *Granthi* and *Arbuda adhikara* in *Baishajya ratnavali*. It is also used as *rasayana* in other systemic disorders. Studies show that Fibroadenomas which are the non-cancerous tumor, most commonly benign in nature, can be treated by *Kanchanara guggulu*³⁷ and *Chandrprabha Vati*³⁸, which shows significant result in the regression of the tumor. Thus, both can be combinedly used in Fibroadenoma of breast. Research articles have revealed that most of the ingredients in this preparation have antioxidant and anticancer activity.

Kanchanara guggulu, as mentioned in *Sharangdhara Samhita, Madhyam Khand*³⁹ is therapeutically important for the management of *Gulma*(Abdominal lump), *Apacahi* (Chronic lymphadenopathy / scrofula), *Granthi* (Cyst), *Vrana* (Ulcer). By virtue of its *Lekhaneeya karma* & anti-inflammatory property helps in reducing the size and arrest the further growth of existing cyst. In addition to that it contains kaempferol flavonoids as chemical ingredient. Kaempferol inhibited PSA secretion and activation of estrogenic receptor. In vivo study against Dalton's ascitic lymphoma in Swiss albino mice, after 14 days of inoculation, extract of *Bauhinia variegata* was found able to reverse the changes in the hematological parameters, protein and PCV consequent to tumour inoculation⁴⁰. Hydroalcoholic extract (50%) of *kanchanara guggulu* exhibited a cytotoxic effect by inhibiting cell division (antimitotic) and reducing cell proliferation in *Allium cepa* assay substantiating its potential for the treatment of cancer and support its traditional use in the treatment of cancer⁴¹.

In *triphala ghritha*, the main ingredient is *triphala*. It is having *kashaya*, *tikta rasa*, *katu vipaka*, *sheeta veerya* and *tridosha shamaka* property. *Triphala* is proven to have immunomodulator activity, anticancerous activity through various

researches. Contemplates have also depicted that *Triphala* is an anticipating powerful anticancer drug which spares normal cells but kills the tumour cells. *Triphala* wields an anti-neoplastic effect on breast, prostate, colon, and pancreas cancer cell lines. It is also evoked that apoptosis induction may have mediated reduced tumour growth in the excised tumour tissue from *Triphala*-fed mice when compared with that of the controls.⁴²

Panchatikta guggulu ghritha contains mainly *tikta panchaka* namely *vasa*, *nimba*, *guduchi* etc. *Tikta rasa* is known for *pachana* and *srotoshodhana*. Animal study was conducted to elicit the efficacy of *PTG ghrutha* in skin carcinogenesis in swiss albino mice. The tumor appearance which is repeated in carcinoma was observed in other groups but not in test group A where *PTG* was given as a preventive treatment. So it is an established fact that *PTG* plays an important role in restricting development of skin cancer⁴³.

In *Madhusnuhi rasayana*, *madhusnuhi* refers to *chopachini*, botanically identified as *Smilax chinensis*. The *yoga* is predominantly *katu*, *tikta*, *kashaya rasa pradhana*, *ushna veerya* and *kapha pitta shamaka* indicated in *Arbuda* and other *twak vikaras*. One of the studies showed that Ethanolic Extract inhibited cancer cell growth by inducing apoptotic cell death

through G0/G1 phase arrest in YD10B Oral Squamous Cell Carcinoma cells.⁴⁴

In *Shivagutika* the main ingredients are *shilajithu*, *triphala kashaya*, *dashamula kashaya* and *gomutra*. So, it is predominantly *katu, tikta rasa pradhana*, *ushna veerya*, *vata kapha medo hara* and is *rasayana* incase of *medoroga*. Some studies show that, the DCM extract of *shivagutika* when subjected to anti-proliferation assay and anti-cancer assay increased the activity of Caspase 3, pro-apoptotic protein. Sciadopitysin was identified as a potent molecule among all phytochemicals as it interacted with Caspase 3 with a binding energy of -7.2 kcal/mol. *Shivagutika* could be used as a potent anti-breast cancer agent (specifically DCM extract of *Shivagutika*) which could decrease the cases of breast cancer in future⁴⁵.

CONCLUSION

Though some of the cancers are curable at an early stage, the unavoidable etiology like genetics, environmental factors, lifestyle changes; rapid growth of disease by nature, deteriorating immunity of the patient, post therapeutic effects and social stigma are still the issues of concern. Detecting early, inhibiting the rapid growth of cancer cells in body and maintaining the quality of life are the protocols to look for. Formulations mentioned in this article have ingredients,

which either prevent onset of cancer or inhibit growth of cell mass due to their anti-oxidant and cyto-toxic nature respectively. Present article may pave way for understanding mode of action of important anti-cancerous formulations mentioned in Ayurveda.

REFERENCES

1. Stanley robinson, L. Robbins and Cotran pathologic Basics of Disease. (8 edn.). Delhi: Elsevier India; 2020.
2. Ranjit sen. Principles and Management of Cancer. (2 ed.). Mumbai: Medip Academy; 2004.
3. Adrian Jones, Journal of medical and surgical pathology, Pathology of Cancer: Causes, Pathophysiology, Diagnosis, Prevention and Treatment.
4. Prof.K.R. Srikantmurthy , Chaukambha orientalia, 2012, Sushruta Samhitha Vol.1, Nidanasthana. Chapter 11, shloka 23, page no. 534.
5. Vaidya Yadavaji Trikamji Acharya.In: Dalhana (ed.) Sushruta Samhita. Varanasi: Chaukhamba Orientalia; 2006 . Nidanasthana, chapter 11, shloka no. 23.page no. 311
6. Prof.K.R. Srikantmurthy, Chaukambha orientalia, 2012, Sushruta Samhitha Vol.1, Nidanasthana. Chapter 11, shloka no. 14 , Page no.534.
7. Charaka. Sotha Chikitsa. In: Agnivesha

(ed.) Charaka samhita. Varanasi: Chaukhamba Orientalia; 2006. p. 223

8. JLN Shastry, MD (Ayu), Chaukambha orientalia, Introduction to oncology, Cancer in Ayurveda, Varanasi, page no. 8.

9. Management of Ayurveda through multiple Ayurveda treatment modalities, Neha Rawat, Rakesh Roushan, published in International journal of basic and applied research on February 2019.

10. Prof.K.R. Srikantmurthy, Chaukambha orientalia, 2012, Sushruta Samhitha Vol 2, Varanasi:Chaukambha sanskrit samsthana, chikitsa sthana , chapter 18.,shloka no. 3, page no.172.

11. Yadavji Trikamji Acharya, Chaukambha sanskrita samsthana, Charaka samhitha, chakrapani teekah. Chapter 28; shloka 7; page no. 178.

12. JLN Shastry, MD (Ayu), Chaukambha orientalia, Introduction to oncology, Cancer in Ayurveda, Varanasi, by Dr. page no. 11.

13. Dr.Santhosh N.Belwadi:Understanding cancer (Arbuda) and ayurveda; VIII(1) 2260-2267

14. Prof.K.R. Srikantmurthy, Chaukambha orientalia, 2012, Sushruta Samhitha Vol. 2, Chikitsa sthana , chapter 18,shloka no. 29, page no.177

15. Shrimati shailaja Sreevatsav, Chaukambha orientalia, Varanasi. Sharangadara samhitha , Madyama khanda, 10/64, page no. 252

16. Vidyotini hindi vimarsha, Shree Kaviraja ambikadatta shastry ayurvedacharya, Chaukambha prakashana, Bhaishajya ratnavali, chapter no. 9/ 225, page no. 322.
17. Vidyotini hindi vimarsha, Shree Kaviraja ambikadatta shastry ayurvedacharya, Chaukambha prakashana, Bhaishajya ratnavali, chapter 44/63, page no. 829
18. Vidyotini hindi vimarsha, Shree Kaviraja ambikadatta shastry ayurvedacharya, Chaukambha prakashana, Bhaishajya ratnavali, Netrarogadhikara 181-186
19. Krishna Ramachandra Shastri, Chaukambha orientalia, Ashtanga hridaya, Chikitsa sthana 21/ 57-60. Page no. 726
20. Shri. P.R.Krishnakumarji, chaukambha krishnadas academy, 2014, 4th edition. Sahsrayoga, leha prakarana, shloka no.41, page no. 262
21. Vidyotini hindi vimarsha, Shree Kaviraja ambikadatta shastry ayurvedacharya, Chaukambha prakashana, Bhaishajya Ratnavali rasayana prakarana, 73/151-173, pageno 1113
22. Thangavelu lakshmi, *Acacia catechu* ethanolic bark extract induces apoptosis in human oral squamous carcinoma cells, journal of advanced pharmaceutical a technology and research
23. JN Nikhitha , Journal of genetic engineering and biotechnology, In vitro anticancer activity of ethanol extract of *Adhatoda vasica* Nees on human ovarian cancer cell lines
24. Wang Y, Screening Antitumor Compounds Psoralen and Isopsoralen from *Psoralea corylifolia* L. Seeds, Evidence based Compliment Alternate Medicine, 2011;2011:363052.
25. Zari AT, Zari TA, Hakeem KR. Anticancer properties of Eugenol: A review. *Molecules*. 2021; 26(23): 7407
26. Eleonora turnii, toxins, Overview of the Anticancer Potential of the “King of Spices” *Piper nigrum* and Its Main Constituent Piperine Toxins (Basel). 2020 Nov 26;12(12):747.
27. Ebtihaj, Shilajit potentiates the effect of chemotherapeutic drugs and mitigates metastasis induced liver and kidney damages in osteosarcoma rats. *Saudi J Biol Sci*. 2022 Sep;29(9):103393.
28. Meenakshi gupta, pubmed, Anti-cancer activity of guggulsterone by modulating apoptotic markers: a systematic review and meta-analysis. *Front Pharmacol*. 2023 May 2;14:1155163.
29. Pipatrattanaseree W, Potential in vitro anti-allergic, anti-inflammatory and cytotoxic activities of ethanolic extract of *Baliospermum montanum* root, its major components and a validated HPLC method, *BMC Complement Altern Med*. 2019 Feb 12;19(1):45

30. S. Umamaheswari, Journal of Chemical and Pharmaceutical Research, 2017, Anticancer Potential of Operculina Turpethum in MCF-7 Human Breast Cancer Cell, 2017, 9(9):44-48
31. N.S. Wagh and N. J. Gaikwad, Evaluation of anti – cancer activity of bark of crataeva nurvala buch. Ham against three cell lines, international journal of pharmaceutical sciences and research) 2014; Vol. 5(11): 4851-4857.
32. Aswathy Sudarshan, Satish Pai, Evaluation of yogavahitwa of madhu with special reference to samyoga and samskara on anti-carcinogenic potential of triphala, 2022;8(2):64-71.
33. Perrone, D., Ardito, F., Biological and therapeutic activities, and anticancer properties of curcumin, experimental and therapeutic medicine, 10.5 (2015): 1615-1623.
34. Pt. Kashinath shastri, Chaukambha Sanskrit samsthana , Varanasi, 2009, Charka Samhitha, Sutrasthana , chapter 25Yajja purusheeya adhyaya, shloka number 40, page no. 320
35. Sidney J et al., Antioxidant, Anti-inflammatory, and Chemoprotective properties of Acacia catechu Heartwood extract, ncbi. nlm. nih. Gov Shukla V, Charak Samhita Vol 2, chikitsa sthan 1/1/7, Chaukambha Sanskrit Pratishthan, Varanasi, Reprint, 2007; pp-5.
36. Krishnachandra Chunekar, Chaukambha Bharati Academy, Varanasi , Bhavaprakasha nighantu Guduchydi varga, page no. 383.
37. Preetimayee Sahoo1 Nihar Ranjan Mahanta2, A Critical Analysis on A Multipotent Drug Chandraprabha Vati - Review Article International Research Journal of Ayurveda & Yoga Vol. 5 (1),105-117, January, 2022
38. Agnihotri NS, Deshmukh JS. A Clinical Study on the Management of Fibroadenoma of Breast with Kanchanar Guggulu and Chandraprabha Vati. Aayushi International Interdisciplinary Research Journal, 2017; 4(8): 72-74
39. Shrimati shailaja Shrivastav, Chaulambha orientalia, Sharangadhara samhitha. Madhyama khanda , 7th chapter, page no. 206
40. Sharad M. Porte, Rakesh Kumar Bakolia, Standalone Ayurveda management of Hodgkin's lymphoma: A case report, Journal of Ayurveda and Integrative Medicine, Volume 14, Issue 6,2023,100808, ISSN 0975-9476.
41. Tomar P, Dey YN, Sharma D, Wanjari MM, Gaidhani S, Jadhav A. Cytotoxic and antiproliferative activity of kanchanar guggulu, an Ayurvedic formulation. J Integr Med. 2018 Nov;16(6):411-417. doi: 10.1016/j.joim.2018.10.001. Epub 2018 Oct

4. PMID: 30337271. <https://doi.org/10.17135/jdhs.2023.23.3.216>
42. Ali sahragard, Zohreh Alavi, Zohreh Abolhassazadeh, Mamhoodreza Moein, Afshin Mohammadi-Bardbori, Mahmoud Omidi, Mohammad M. Zarshenas, "Assessment of the Cytotoxic activity of Triphala: A Semisolid Traditional Formulation on HepG2 Cancer Cell Line" BioMed Research International, Vol. 2021, Article ID 6689568, 7 pages, 2021.
43. Nivedita Deshbhratar¹, Raman Belge², A.P. Somkuwar³, Umap Swati, Anticancer Activity of Panchatikta Ghrita in 7,12-dimethylbenz(a)anthracene (DMBA) Induced Skin Carcinogenesis in Swiss Albino Mice, International Journal of Health Sciences and Research, published on march 2022.
44. Ethanol Extract of *Smilax glabra* Induces Apoptotic Cell Death in Human YD10B Oral Squamous Cell Carcinoma Cells J Dent Hyg Sci 2023;23:216-24 Published online September 30, 2023;
45. Pushpa V H¹, Mahadevaswamy G Kuruburu, Subba Rao V Madhunapantula, Bioactive profiling and evaluation of anti-proliferative and anti-cancerous properties of Shivagutika, an Indian polyherbal formulation synchronizing *in vitro* and *In silico* approaches.

CORRESPONDING AUTHOR

Dr Satish Pai
Professor and Head, Dept. of PG Studies in
DravyaguanaVijnana, JSSAMC, Mysuru-
Karnataka
E-mail: satishayurveda@gmail.com

Source of support: Nil

Conflict of interest: None Declared

Cite this article as

Dr Satish Pai: Review on *Arbudahara Yogas*
Mentioned in Ayurvedic Literature; IX(4):
2467-2476