



Review article

Ayurvedic approach for the treatment of side effects caused by radiotherapy and chemotherapy in cancer patients

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ABSTRACT

Ayurveda has its own role in the prevention and management of cancer's complications. Chemo- and radiotherapy are highly toxic and both damage adjacent healthy cells. Their side effects may be acute like nausea, vomiting, diarrhea and fatigue or chronic like pharyngitis, esophagitis, laryngitis and persistent dysphasia. According to *Ayurveda*, many medicines show the anticancer properties such as *Brihamarasayan*, *Brahmi*, *Guduchi*, *Yasthimadhu*, *Ashwgandha*, and *Amalaki* which can be helpful in treating cancer as well as the side effects caused by chemo- and radiotherapy in cancer patients. In the present work, the literature regarding classical *Ayurvedic* texts, research papers in peer reviewed journals and related data of different websites was critically reviewed. The review concludes that *Ayurvedic* Medicines have effective result in cancer and reducing the complications.

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INTRODUCTION

Many chronic diseases like Cancer can easily come to stay with us and become our unwanted guests. The cancer was mentioned in ancient *Ayurvedic* literature by the name of *Arbuda* (tumour). It is one of the surgical diseases and was explained in detail by *Aacharya Sushruta* whereas *Aacharya Charaka* mentioned the *Arbuda* under the heading of *Sopha*. *Aacharya Vagabhat* told in his word that any mass bigger than the *Granthi* (gland) is called *Arbuda*. *Ayurveda* has its own role in the prevention and management of cancer. Initially during the beginning period of *Ayurvedic* Science, the cancer was not an important disease entity due to its less prevalence. However, presently, the situation has thoroughly changed and it is now the major cause of fatality, second only to cardiac ailments. It is no more considered as an unimportant illness as in the past. Most of the cancers are named for the organ or type of cell in which they start e.g. cancer that begins in melanocytes of the skin is called melanoma. The major causes of cancer for normal and abnormal multiplications of *Paramanu* (cells) are *Vata* (deranged internal environment), *Karma* (acquired genetic injury) and *Svabhava* (inherited genetic injury) (Metri et al., 2013). The analysis of changes in *Dhatu*s in a specific pathology is given in Table 1.

Table 1. Analysis of changes in *Dhatu*s in a specific pathology

S.No.	Character of <i>Dhatu</i>	Sign
1.	<i>Dhatu-vridhhi</i>	<i>Staulyam</i> (proliferation of tissues from growth factors)
2.	<i>Dhatu-kshayam</i>	<i>Rajayaksma</i> (chronic respiratory disorders)
3.	<i>Dhatu-dushti</i>	<i>Raktapittam</i> (failure of abnormal cells to undergo apoptosis)
4.	<i>Dhatu-pakam</i>	<i>Jvaram</i> (field defect and inherited defect causing clonal origin of cells)
5.	<i>Dhatu-uathilyam</i>	<i>Prameha / Paadu</i> (Defect in DNA production with heterogeneity forming clonal production)

The available treatment of the cancer can be prolonged the survival of patient, but may cause severe adverse effects and obliterated the quality of life. Even experts believe that role of chemotherapy is complex issue at the end of life. Thus, ray of hope turns toward palliative care to treat the cancer. With an aim to increase the life quality of the cancer patients, author consulted the classic texts of *Ayurveda*. It was found that the

disease resembling with the cancer codified in the classic texts of *Ayurveda* in the form of *Granthi* and *Arbuda* with *Shodhan* (curative) and *Shaman* (palliative) treatment and regimen to follow *Aahar*, *Vihar*, *Dincharya*, *Rutucharya*, *Sadvritta*, *Yoga*, and *Satvavajaya* treatment. The object of *Ayurveda* is to protect health of the healthy persons and to cure the disease of diseased one. *Ayurveda* treatment plays an important role in the cancer. During the chemotherapy and radiotherapy patients face many side effects, principles of *Ayurvedic* treatment can help the patients to reduce side effect. Hence, there is an urgent need to communicate precious holistic knowledge of *Ayurveda* to the scientific world. This will lead to create awareness about palliative concept of *Ayurveda* in scientific community. *Ayurveda* has the potential to become an important arm in standard care of cancer treatment. The ancient wisdom of *Ayurveda* needs to be explored in a scientific world. The doctors, *Vaidyas*, researchers, and scientists have to work together to generate various level of evidence to improve the quality of life in cancer patients and make them peaceful while moving toward end. When the major side effects of chemo-radiotherapy are looked through an *Ayurvedic* perspective, it appears that they are the manifestations of aggravated *Pitta Dosh*a especially under the group of disorders. The signs and symptoms of aggravated *Pitta* as per ancient *Ayurveda* texts are *Mukhapaka* (stomatitis), *Trushna* (excessive thirst), *Osha* (feeling of hot sensation in

the body), *Galpaka* (pharyngitis), *Payupaka* (urethritis), *Gudapaka* (proctitis), *Davatu* (acid regurgitation), *Dava* (burning sensation in the oral cavity) and *Abhishandha* (conjunctivity) (Baliga, 2010).

MATERIALS AND METHODS

In the present literary study, the related literature was thoroughly searched from classical *Ayurvedic* texts, research papers in peer reviewed journals using online scientific search tools like google scholar, Pubmed, and Scopus. In addition, some relevant data from different websites was critically reviewed.

RESULTS AND DISCUSSION

The malignant disease, once it reaches beyond the control, nothing can reverse its progression. The only possible measure we can take is the aid for peaceful demand of the sufferer. The measures are the pain reduction and relief from the intensity. The treatment of the cancer through radio and chemotherapy causes many serious side effects (Prasad, 1987). In addition to the most frequent complication i.e. pain, other side effects caused by radio and chemotherapy are given in Table 2 whereas most frequently used modern and *Ayurvedic* drugs to treat cancer side effects are given in Table 3.

Table 2. Common complication after chemo- and radiotherapy

Short term side effects	Long term side effects
1. GIT Related side effects: loss of appetite, mouth and throat sore, diarrhea, constipation, nausea and vomiting Urinary tract related side effects: dysuria and urinary incontinence 2. Reticulo-endothelial system related side effects: anemia and blood infection 3. Reproductive system related side effects: sexual problems, fertility issues, menopausal symptoms like- vaginal dryness and hot flushes 4. Generalised side effects: neuropathy of hands and feet, weight loss, chronic fatigue, hair fall, cognitive dysfunction and increased anxiety	1. Osteoporosis 2. Damage of vital organs like liver, heart, kidney and lungs 3. Vision impairment 4. Hearing loss 5. Permanent damage to brain, spinal cord and nerves.

Table 3. Suitable modern and *Ayurvedic* drugs for cancer and its related complications and side effects

S.No.	Side effects	Modern drugs	Side effects of modern drugs	Suitable <i>Ayurvedic</i> drugs with Reference
1.	Pain (nerve damage, headache, muscular pain, stomach pain)	Acetaminophen NSAIDs (aspirin), Opioid (morphine), Antidepressants (imipramine), steroids (prednisone)	Constipation, dizziness, feeling faint, drowsiness, nausea, vomiting, liver damage, allergic reaction, etc.	Systemic relaxation, massage, <i>Haldi</i> (<i>Curcuma longa</i>), <i>Shunti</i> (<i>Zingiber officinalis</i>) (Sexton, 2013), <i>Dashmool kwath</i> (Das, 2016), <i>Shatavari ghrit</i> (Lakshipatishastri, 1973), <i>Kamdudharas</i> , <i>Shankhvati</i> (Hariprapannai, (1998), <i>Erand</i> (<i>Ricinus communis</i>)(Chunekar, 2015), <i>Kulattha</i> (<i>Dolichos biflorus</i>), <i>Shalprni</i> (<i>Desmodium gangeticum</i>) (Sastri, 2012), <i>Shigru</i> (<i>Moringa oleifera</i>), <i>Ahiphen</i> (<i>Papaver somniferum</i>), <i>Dhatu</i> (<i>Datura</i>

				<i>metel</i>), <i>Sarp Gandha (Rauwolfia serpentina)</i> (Bapalal, 2013), <i>Gokshur (Tribulus terrestris)</i> (Ojha, 2004)
2.	Nausea and vomiting (<i>Pittaj Chardi</i>)	Serotonin antagonists- Ondansetron, NK-1 antagonists- Rolapitant, Antacids- Ranitidine, Dopamine Antagonists- Metaclopramide, Cannabinoids- dronabinol	Diarrhea, constipation, Dizziness, headache, fatigue	<i>Guduchi (Tinospora cordifolia)</i> + <i>Triphala</i> + <i>Neem (Azadirachta indica)</i> + <i>Patol (Trichosanthes dioica)</i> mixed with <i>madhu</i> , <i>Kalyanaka ghrit</i> , <i>Jeevaniya ghrit</i> , <i>Jambu (Syzygium cumini)</i> , <i>Chandan (Pterocarpus santalinus)</i> (Bapalal, 2013), <i>Shunti (Zingiber officinalis)</i> (Julie et al., 2012), <i>Eladi churan</i> , <i>Haritaki (Terminalia chebula)</i> , <i>Amra (Mangifera indica)</i> (Bhavmishra, 1949), <i>Kapitha (Feronia elephantum)</i> , <i>Pippali (Piper longum)</i> , <i>Amalaki (Emblia officinalis)</i> , <i>Giloy (Tinospora cordifolia)</i> (Shastri, 2012), <i>Murva (Marsdenia tenacissima)</i> , <i>Talishpatra (Abies webbiana)</i> (Narahari, 2010), <i>Mulethi (Glycyrrhiza glabra)</i> (Ojha, 2004)
3.	Alopecia (hair loss) (<i>Khalitya</i>)	Corticosteroids injections, Hair sprays like Minoxidil, Contact immunotherapy	Skin rashes, Weight gain, nausea, vomiting, general debility	<i>Pranayama</i> , <i>Shiropichu</i> , <i>Shirobasti</i> , <i>Arogyavridhanivati</i> (Joshi and Ramnarayan, 2011), <i>Dugadhika (Euphorbia pilulifolia)</i> , <i>Sairiyakadi tail</i> , <i>Bhrangraj (Eclipta alba)</i> + <i>mulethi (Glycyrrhiza glabra)</i> , <i>Vidarigandadi oil</i> , <i>Karveer (Nerium indicum)</i> tail (Pandey, 2012)
4.	Diarrhea (<i>Pittaj atisara</i>)	Antibiotics like metrogyl, Antiparasitics Probiotics ORT	Skin rashes, Troublesome breathing, abdominal pain, Severe dizziness, Swelling of tongue and throat	<i>Haritaki (Terminalia chebula)</i> , <i>Bilv (Aegle marmelos)</i> , <i>Ativisha (Aconitum heterophyllum)</i> , <i>Ajadugdha</i> , <i>Mustak (Cyperus rotundu)</i> , <i>Deepan-pachan dravya</i> , <i>Shunthi (Zingiber officinalis)</i> + <i>Lodhra (Symplocos recemosa)</i> + <i>Lalchandana (Pterocarpus santalinus)</i> + <i>Khas</i> + <i>Neelkamal (Nymphaea setallata)</i> (Pandey, 2012), <i>Bilvadi kwath</i> , <i>Rashanjanadi churan</i> (Bhavmishra, 1949), <i>Kutajghanvati</i> , <i>Shallaki (Boswellia serrata)</i> , <i>Patha (Cissampelos pareira)</i> , <i>Babool (Acacia arabica)</i> , <i>Amra (Mangifera indica)</i> (Chunekar, 2015)
5.	Anemia (<i>Pandu</i>)	Mild: iron and vitamins supplements Chronic: Injecting synthetic erythropoietin, blood transfusion, bone marrow transplantation	High grade fever, high BP, skin reactions, anaphylactic reaction, seizures	<i>Punarnavadimandur</i> , <i>Nvayas churan</i> (Bhavmishra, 1949), <i>Loha bhasma</i> , <i>Arogyavridhanivati</i> , <i>Dhatraavaleha</i> , <i>Ikshu (Saccharum officinarum)</i> , <i>Amalaki (Emblia officinalis)</i> , <i>Mulethi (Glycyrrhiza glabra)</i> , <i>Draksha (Vitis vinifera)</i> , <i>Cow urine</i> + <i>Triphala kwath</i> + <i>Haritaki</i> (Pandey, 2012)
6.	Mouth and throat sores, Mucositis (<i>Pittaj Mukhapak</i>)	Corticosteroids ointment, Antimicrobial mouth washes	Brushing, thinning of oral mucosa, local burning sensation, gastritis	<i>Sheetal and tikta dravya</i> , <i>Chandan (Santalum album)</i> , <i>Khadiradi vati</i> , <i>Haridra (Curcua longa)</i> + <i>Neempatra (Azadirachta indica)</i> + <i>Mulethi (Glycyrrhiza glabra)</i> + <i>Neelkamal oil (Nymphaea setallata)</i> , <i>Kawal-Triphala kwath</i> , <i>Jatiphalidi kwath</i> (Chakrapanidatta, 1976), <i>Laksmivilasharas</i> , <i>Khadir (Acacia catechu)</i> , <i>Kalaka churna</i> , <i>Mulethi (Glycyrrhiza glabra)</i> , <i>Jati (Jasminum</i>

				<i>gradiflorum</i>), <i>Dharuharidra kwath</i> (Bhavmishra, 1949), <i>Arka (Calotropis procera)</i> , <i>Kumari (Aloe vera)</i> , <i>Green tea</i> (Freitas et al., 2012)
7.	Loss of Appetite, Anorexia (<i>Arochaka</i>)	Orexigenics (Ranging from antihistamines to synthetic hormones)	Undesired weight loss with wasting of muscle tissues	<i>Drakshaashava</i> , <i>Sitopaladichuran</i> , <i>Kamdudharas</i> , <i>Lavangadi churna</i> (Bhavmishra, 1949), gargles of <i>Shunthi (dried ginger)</i> , <i>maricha (Black pepper)</i> , <i>Pippali (Pepper longum)</i> , <i>lodra (Symplocos racemosa)</i> , <i>Teja patra (Cinnamomum zeylanicum)</i> , <i>Yavaksharas (Hordeum vulgare)</i> (Pandey, 2012), <i>Aadraka (Zingiber officinalis)</i> , <i>Emlipanak</i> , <i>Dadimadi churan</i> , <i>Yvanikhandav churan</i> , <i>Pippali (Pepper longum)</i> , <i>Mustaka (Cyperus rotandus)</i> (Chunekar, 2015)
8.	Constipation (<i>Vibandh</i>)	Laxative like Dulcolas, stool softeners like-decussate	Skin rashes, internal blockage, muscle cramps, irregular heartbeat, irritation around rectal and anal area	For mild : <i>Haritaki (Terminalia chebula)</i> , <i>Aragvadha (Cassia fistula)</i> , <i>Patol (Trichosanthes dioica)</i> , <i>Isabgol husk (Plantago ovata)</i> , <i>Eranda tail</i> , <i>Abhayadikwath</i> , <i>Triphala</i> , <i>Avipatikarchurna</i> (Joshi and Ramnarayan, 2011) For severe: <i>Danti (Baliospermum montanum)</i> , <i>Trivart (Operculina terphantam)</i> , <i>Jayapal (Croton tiglum)</i> , <i>Senna (Cassia angustifolia)</i> , <i>Abhyaarisht</i> , <i>Brahmi (Bacopa monnieri)</i> , <i>Drakshasava</i> (Lakshipatishastr, 1973)
9.	Sexual problems, Fertility issues (Male- <i>Klaibya</i> , Female- <i>Bandhya</i>)	Nitric oxide Enhancers like Viagra, levitra etc., flibanerin (anti-depresent), In women- Hormonal therapies, Clomiphene, citrate for ovulation, hormonal injection, <i>in vitro</i> fertilization	Angiopathy, low bp, sleepiness, severe fatigue weight gain, decreased libido, premature delivery, visual impairment	<i>Panchkarma: Vamana</i> (emesis therapy), <i>virechana</i> (purgation), <i>Basti</i> (enema with medicated decoctions or oils, <i>Brahataashatavari grita</i> (Pandey, 2012). Male: <i>Vajikarn Aushadh</i> , <i>Gorakshadi modak</i> , <i>Vanari vati</i> , <i>Kapikachu (Mucuna pruriens)</i> , <i>Ashvagandha (Withania somnifera)</i> , <i>Mash (Phaseolus radiates)</i> , <i>Shigru (Moringa oleifera)</i> , <i>Swetmushali (Asparagus adscendens)</i> , <i>Goksura (Tribulus terrestris)</i> (Palatty et al., 2012). Female: <i>Ashoka (Saraca asoca)</i> , <i>Kumari (Aloe vera)</i> , <i>Ashokarista</i> , <i>Rajapravrtinivati</i> , <i>Shatavari (Asparagus recemosa)</i> , <i>Phalghrita</i> , <i>Kalayank ghrut</i> , <i>Mahanarayan tail</i> (Das, 2016)
10.	Menopausal (<i>Rajonivriti</i>) Symptom like vaginal dryness, hot flushes, anxiety	<i>Hormonal replacement therapy</i> , <i>Antianxiety drugs</i>	Risk of blood clots, breast cancer, headache, extreme depression, drowsiness	<i>Pranayama</i> , <i>Sharirabhyang</i> , <i>Abhyantar snehan</i> , <i>Amalaki (Emblica officinalis)</i> , <i>Patrangaashav</i> , <i>Chandarprabhavati</i> , <i>Kamdudharasa</i> , <i>Shatavari ghrut</i> , <i>Mulethi (Glycyrrhiza glabra)</i> , <i>Chandrakalarasa</i> , <i>Gokshuradi guggulu</i> , <i>Chandnadivati</i> (Joshi, 2011)
11.	Pharyngitis	NSAIDs, Acetaminophen, Amoxicillin Steroids- Dexamethasone	Stomachache, ulcer, ringing in ears, high BP, headache, dizziness, dry skin, insomnia	<i>Pranayam</i> , <i>Surya namskar</i> , <i>Khadiradivati for chewing</i> , <i>Lavangadi vati</i> , <i>Vyoshadi vati</i> , <i>Spray-Eucalyptus citriodora oil</i> , <i>Eucalyptus globules oil</i> , <i>Mentha piperita oil</i> , <i>Origanum syriacum oil</i> , <i>Rosmarinus officinalis oil</i> (Ben-Arye et al., 2011)
12.	Urinary incontinence	Mild: Iron and vitamins	High grade fever, high BP,	<i>Medhya dravyas</i> , <i>Rasayan- Ashwaganda (Withania somnifera)</i> ,

		supplements Chronic: injecting synthetics erythropoietin, blood transfusion, bone marrow transplant.	Skin reactions, anaphylactic reactions, seizures	<i>Chawanprashavaleha, Dashmool, Kasayam, Brahmrasayan, Chandraprabhavati, Punarnavavaleha, Aamlaki (Emblica officinalis)</i> (Joshi, 2011)
13.	Blood infection (Raktavikar)	Broad spectrum antibiotics, Vasopressor IV fluids	Severe allergic reactions, chest pain, tinnitus	<i>Triphala, Haridrakhanda, Panchtikta ghrita, Guggulu, Kashor guggulu, Mahamanjistadikwath, Manjista (Rubia cordifolia), Shariva (Hemidesmus indicus), Haridra (Curcuma longa)</i> (Chunekar, 2015)
14.	Neuropathy of hands and feet, numbness, pain, tingling (<i>Vatavyadhi</i>)	Analgesic like-acetaminophen, corticosteroids, Seizure medications like-gabapentine	Memory loss, depression, loss of coordination	<i>Dashmool, Mahanarayan tail, Pinda tail, Mahamasadi tail, Akangveer rasa, Rasnadi kwath, Vatarirasa</i> (Bhavmishra, 1949)
15.	Weight loss (<i>Krish</i>)	Hormonal pills like-methyl testosterone, Steroids injections	Allergic reactions, uncontrolled weight gain, renal failure	<i>Madhur and brihana dravya, Anuvashan basti, Ashvagandha (Withania somnifera), Mulethi (Glycyrrhiza glabra), Kusmadavaleha, Chawanprashavaleha</i> (Pandey, 2012)
16.	Chronic fatigue (<i>Duarbalya</i>)	Sleeping pills, Antihypertensive, Antidepressants	Mania, daytime drowsiness, depression, burning feet	<i>Shilajeet rasayan, Jeevaniya dravya, Ashvagandha, Shatavari (Asparagus racemosus), Shastikshali, Ashwagandha tail</i> (Bapalal, 2013)
17.	Skin changes-sebostasis, epidermal atrophy, itching, dryness, eczema	Corticosteroids-Momethasone Antibiotics-Metronidazole, Antihistamines-Alimemazine, Cetirizine	Clouding of the lens in both eyes, burning during urination, nausea, dry mouth	<i>Massage with bala tail, swedana karma (sudation therapy), Virechan, basti (enema), Panchanimba churna, Arogyavardhini vati, Kashor guggulu, Triphala guggulu</i> (Sarangadharacharya, 2004)
18.	Cognitive dysfunction	Antipsychotic drugs, Antidepressants, Hypnotic drugs	Sexual dysfunction, Persistent withdrawal symptoms, cardiac problems, birth defect	<i>Shirodhara, Pranayam, Shatvajaya chikitsha, Brahmrasayana, Medhya rasayan - Shankhapushpi (Convolvulus pluricaulis), Brahmi (Bacopa monniera), Mandukaparni (Centella asiatica), Ashwaganda (Withania Somnifera), Jatamansi (Nardostachys jatamansi), Sarpagandha (Rauwolfia serpentina), Shatvajaya chikitsha, Amalaki (Emblica officinalis), Kauch (Mucuna pruriens), Shatvajaya chikitsha, Tagar (Valeriana wallichii), Shilajit rasayan, Kalyanaka Ghrita, Chyavanprashaavaleha</i> (Pandey, 2012)
19.	Sleep problem	Hypnotic (Zolpidem and Zaleplon), Sedative-Barbiturates, chloral hydrates	Burning or tingling in hands, arms, feet, constipation, dizziness, changes in appetite, paranoia, irritability, slurred speech	Whole body massage with <i>Kshirbala</i> and <i>mahamasha</i> oil, bath, food items such as rice with curd or milk or ghee etc., meat soup of aquatic or forest animals, listening to soft and pleasant music, taking pleasant smell, sleeping in soft and comfortable bed, cuddling before sleeping (Pandey, 2012), <i>Nidrodya rasa, Brahmrasayan, Drakshaashav, Sarpagandhaghnavati, Ashwaganda (Withania Somnifera),</i>

				<i>Mundi (Sphearanthus indicus)</i> (Chunekar, 2015)
20.	Hepatotoxicity (<i>Yakrittodar</i>)	Diuretic- Furosemide (Lasix), Hydrochlorthiazide, Pain killer	Chest pain, chills, fever, headache, lower back pain, abdominal pain, black, tarry stools, bleeding gum	<i>Panchakarma, Panchkola Ghrita, Aarogyavardhani vati, Rohitak ghrita, Nvayash churan, Panchgavya ghrita, Salmali (Bombax malabaricum), Sharpunkha (Tephrosia purpurea), Pippalyadi churna, Kutaki (Picrorrhiza kurroa), Pippli (Piper longu), Ashwaganda (Withania Somnifera), Himsra (Capparis sepiaria), Syrup Liv 52, Kumaryaashava</i> (Kataria and Singh, 1997; Madhavan et al., 2012;)

Ayurvedic treatment for chemotherapy-induced side effects

Ayurvedic treatment is helpful in treating side effects induced by chemotherapy in cancer patients. Following treatment should be given preferably three days prior of the chemotherapy.

1. *Sadya snehan*: one teaspoon cow ghee + one teaspoon salt should be consumed at morning with hot water with empty stomach.
2. *Manjishthadi kwath* and *Kachnar gugglu*.
3. Coriander leaves juice: freshly prepared juice with 20-30 g concentration twice a day during the chemotherapy.

Ayurvedic treatment for radiotherapy-induced side effects

During the radiotherapy, following Ayurvedic treatment should be given.

1. *Sadya snehan* + *matra basti* for three days.
2. Piece of tamarind to be kept in mouth during radiotherapy is advised for mouth and throat cancers.
3. Vaginal tampon of *Castor* oil is applied daily in vagina for cervical and rectal cancers.
4. *Mrudu virechan* (mild laxative) is always advised during radiotherapy except for vaginal and cervical cancers.

CONCLUSION

The *Ayurvedic* medicines can be used in cancer survivors after chemo- and radiotherapy in certain conditions including for correcting *Jataragni* (appetite) and reducing the quality and quantity of side effects. In addition, during rest period between successive chemotherapy sessions, the Ayurvedic treatment can be given. The condition where vitamins supplements like- vitamin A, E, C (antioxidants) are causing increase in the severity of the adverse effects, the Ayurvedic treatment can be applied. This treatment should be given in combination with highly nutritional food. If the patient feels psychological changes during and after chemo- and radiotherapies or to increase the

immunity, the Ayurvedic treatment is certainly helpful. These medicines are usually contain multiple active principles which correct the *Tridosha* vitiation at cellular level without showing any adverse effect and also act as the food supplement.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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