Scope of Ayurveda Interventions to Improve Palliative Care Practices in Terminally Ill Cancer Patients

Amrish P Dedge, Manohar S Gundeti, Govind Reddy

ABSTRACT

Ayurveda proposes guidelines and detailed methodology of healthy living and treatment of various medical conditions which are time tested and applicable to current healthcare issues. In terminally ill cancer patients, poor prognosis, unfruitful efforts, lost hope from relatives and patient may dilute intent of treatment resulting in worsening the condition medically, mentally, morally and socially. However, it’s ethical, moral responsibility of healthcare professional to make every possible effort for betterment and convenience of the patient. Through this narrative review, here we try to explore the scope of Ayurveda interventions in improving palliative care practices of terminally ill cancer patients. Ayurveda can play a major role in palliative care through some suitable, convenient treatment measures along with conventional palliative care. Ayurveda interventions viz. Vrana karma (wound care), Basti (per rectal drug administration), Snehan-svedan (massage, fomentation), Kawal-gandoosha (gargling), Shiro-snehan (oleation of head), etc. may contribute as alternative or complementary to ongoing palliative care practices of wound care, urine-bowel related issues, ambulation, oral hygiene, stress management, and pain management respectively. Various yaapana basti to nourish body and Nasya (Nasal instillation of medicine), Karraapooora (Ear drops), Shiro-snehan for irritable patients to improve quality of life (QoL) in cancer patients can be used. Ayurveda offers pain management through appropriate use of the above measures by reducing pain intensity, frequency, and dependence on pain killers. Conventional palliative measures can be supported by these measures of Ayurveda principles and practices for better convenience of patients without supplanting current practices. Here we discuss the scope of Ayurveda interventions for additional benefit and convenience of patients in palliative care.

Keywords: Ayurveda, Palliative care, Terminally ill cancer patients.

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INTRODUCTION

Ayurvedic interventions are preferred by patients at various points of chronic diseases for various purposes viz. symptomatic relief, better quality of life and disease management. However, critically ill cancer patients and left out cancer cases, are mostly managed through conventional medicine (i.e., allopathy) palliative care. Here an attempt had been made to explore possible areas and situations where Ayurveda with its principles and practices can broaden its spectrum in palliative care to serve such patients.

Palliative care is an approach that improves the QoL of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual. Palliative care provides relief from pain and other distressing symptoms, affirms life and regards dying as a normal process, intends neither to hasten or postpone death, integrates the psychological and spiritual aspects of patient care, offers a support system to help patients live as actively as possible until death, offers a support system to help the family cope during the patients illness and in their own bereavement, uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated. It enhances QoL and may also positively influence the course of illness, is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications.

As per World Health Organization (WHO) Global Atlas of palliative care at end of life, there were approximately 54.6 million deaths worldwide in 2011. The great majority of deaths, 66%, are due to noncommunicable diseases. Palliative care services focus mainly on noncommunicable causes of death in addition to other chronic conditions such as human immunodeficiency virus (HIV)/acquired immune deficiency syndrome (AIDS) and drug-resistant TB. Globally, in 2011, over 29 million people died from diseases requiring palliative care.
care. The estimated number of people in need of palliative care at the end of life is 20.4 million. The biggest proportion, 94%, corresponds to adults of which 69% are over 60 years old and 25% are 15–59 years old. This fact highlights the need of focus on palliative care in such disease conditions. Here we propose a practically possible contribution that Ayurveda principles and practices can offer in palliative care of terminally ill cancer patients in various conditions and stages of disease (Table 1).

National palliative care program has been promoted by the Ministry of Health and Family Welfare, Government of India and it is part of the ‘Mission Flexi Pool’ under National Health Mission (NHM) having a goal of an availability and accessibility of rational, quality pain relief and palliative care to the needy, as an integral part of health care at all levels, in alignment with the community requirements. Main expected beneficiaries are terminal cases of cancer, AIDS, etc.

Ayurveda contributions if incorporated with this plan can concur with agenda from National Health Policy 2017 of mainstreaming AYUSH systems.

DISCUSSION

Terminally ill cancer patient needs different and more intense management than that of a routine patient of the same disease. A bad prognosis, lost hope from relatives and mainly patient makes intent very dilute and worsening the condition of patient medically, mentally, morally and socially. However, it is ethical and moral responsibility of every healthcare professional to make every possible sincere effort for betterment and convenience of patient. Generally, along with bad prognosis, the issues like non-ambulation, artificial nutrition, artificial hydration, artificial ventilation of the patient makes the scenario difficult leading us to think toward more suitable or convenient quality palliative care management measures for end-stage cancer patients. The issues to be looked upon the palliative care are such as artificial feeding, artificial hydration, wound care (bed sores), urine related issues, bowel management, personal hygiene, ambulation, pain management, and disease-specific measures. The current practices of palliative care management are mainly based on the principles of allopathic and nutritional sciences. These practices have established scientific guidelines and are currently practiced worldwide.

Artificial Feeding

Endotracheal feeding (ETF) is commonly used long with gastroscopy procedure when it comes to artificial feeding of terminally ill patients. The choice of feed to be given via ETF is influenced by a patient's nutritional requirements, any abnormality of gastrointestinal absorption, motility, or diarrheal loss and the presence of other system abnormality, such as renal or liver failure. Generally, 30 kcal/kg/day (30 mL/kg/day of standard feeds) is likely to be adequate. Patients should start at rates of 10 kcal/kg/day. Micronutrients are required for the prevention or correction of recognized deficiency states and maintenance of normal metabolism and antioxidant status.

Artificial Hydration

This is also required in terminally ill cases and is done by enteral and parenteral routes like intravenous (IV) or central route. For oral route nasogastric tube is commonly used. The amount of food is calculated, and fluids are calculated as per the protein-calorie requirement. The selection of IV fluid and amount of fluid depends upon the nature and degree of depletion of fluids and electrolytes.

Wound Care

For wounds of such patients especially bed sores, specialized care is provided. Prevention is the prime focus. In the case of developed bed, sores management deals with proper dressings and avoiding the infections.

Urine-related Issues

Urine incontinence, management of urinary tract infections (UTIs), Foley’s catheterization, neurogenic bladder are the common issues faced in these cases. Proper care of catheter, assessment of urine output, proper hydration are the patterns of management used for the said issues.

Bowel Management

Due to factors like immobilization, aging, improper intake and hydration, the patients on palliative care often suffer from bowel evacuation issues and gastrointestinal (GI) symptoms associated with it. Proper nutrition, hydration, and enema therapy as required are used. Proper care of stoma bag in the patients of colorectal cancer with a stoma is needed.

Personal Hygiene

Personal hygiene of terminally ill and non-ambulatory patient is attained by good nursing care. It may comprise of cleaning of the oral cavity, if needed suction of throat secretions, care about urine and stool, sponging, care of bed sores, etc.

Pain Management

In patients with advanced disease, more than two-third patients experience severe pain. This pain is managed by various means like psychological approaches, modification of pathological processes, drugs (NSAIDs, weak opioids, strong opioids by the escalating sequence in cancer pain), interruption of pain pathways, modification of daily activities, etc.
Table 1: Ayurveda interventions in palliative care of terminally ill cancer patients in various conditions and stages of diseases

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Subtype</th>
<th>Proposed formulations/ preparations</th>
<th>Possible conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snehana</td>
<td>Abhyanga</td>
<td>Ksheerbala tailam, Chandanbalakalakhadi Tailam, Ashwagandhi tailam, Narayan Tailam</td>
<td>Cachexic patient, Patient with hampered ambulation, Neuropathies/chemotherapy induced peripheral neuropathy (CIPN), Any recurrent pain, Anxiety/ sleeplessness/ insomnia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nasya, Karnapoorana Shiro-snehana</td>
<td>Patient with altered cognition, Anxious , stressed patients</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(abhyanga, seka, pichu, basti)</td>
<td></td>
</tr>
<tr>
<td>Swedana</td>
<td>Nadisweda</td>
<td>For nadisweda- Dashamoolaa decoction</td>
<td>Patient with hampered ambulation, Neuropathies/ CIPN, Any recurrent pain</td>
</tr>
<tr>
<td></td>
<td>Pindasweda</td>
<td>For pindasweda- Rice, Milk, fine powder of herbs like Ashwagandha (Withania somnifera (L.), Bala (Sida cordifolia L.), Guduchi (Tinospora cordifolia (Thunb.) Miers.), Upanaha sweda (Poulite)- Sand, rock salt, fresh leaves of herbs like Eranda (Ricus communis L.), Nirgundi (Vitex nigundo L.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upanahasweda (chrunal/patraptottali)</td>
<td>For pindasweda- Rice, Milk, fine powder of herbs like Ashwagandha (Withania somnifera (L.), Bala (Sida cordifolia L.), Guduchi (Tinospora cordifolia (Thunb.) Miers.), Upanaha sweda (Poulite)- Sand, rock salt, fresh leaves of herbs like Eranda (Ricus communis L.), Nirgundi (Vitex nigundo L.)</td>
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</tr>
<tr>
<td>Basti</td>
<td>Matrabasti</td>
<td>For matra basti- Narayana tailam, Dhanwantrata tailam, Eranda tailam (castor oil)</td>
<td>For various pain, Bowel management, Morphine induced constipation, Mode of nourishment, Mode of drug delivery</td>
</tr>
<tr>
<td></td>
<td>Nirooha Basti</td>
<td>Misrak sneha, Laghuvi shagbartha taila (for pain)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Keheerabasti</td>
<td>For Nirooha basti- Dashamoolaa nirooha, Erandmuladi nirooha, Rasnadi Nirooha, For Ksheera basti- Panchatiksa ksheera basti, Ashwagandha ksheera basti</td>
<td></td>
</tr>
<tr>
<td>Dhoopana</td>
<td>Vrandhooopana</td>
<td>Triphala</td>
<td>Bedridden patients with bed sores, Non healing, cancer wounds, lesions, Fumigation of patient cabin</td>
</tr>
<tr>
<td></td>
<td>Dhoopana of cabin</td>
<td>Nimba (Azadiracta indica A. Juss)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Karanja (Pongamia pinnata (L.) Pierre)</td>
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<tr>
<td></td>
<td></td>
<td>Guggulu (Commiphora wightii (Arn.) Bhandari)</td>
<td></td>
</tr>
<tr>
<td>Nasya</td>
<td>Pratimarsha</td>
<td>Anu Tailam, Shadbindi Tailam</td>
<td>Betterment of cognitive functions, Stress, Insomnia, Amnesia, Anosmia</td>
</tr>
<tr>
<td>Nasya</td>
<td>Pradhamana (rarely)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shiro-snehana</td>
<td>Milk</td>
<td>Milk-</td>
<td>Anxiety, Depression, Insomnia, Amnesia, Pain</td>
</tr>
<tr>
<td></td>
<td>Buttermilk</td>
<td>Processed in herbs like Brahmi (Bacopa monnieri (L.) Pennell)., Jatamasi (Nardostachys jatamansi (D. Don) DC.), Ashwagandha (W. somnifera) Buttermilk- Processed in herbs like Amlaki (Emblica officinalis Gaertn.), Jata-mamisi (N. jatamansi), Musta (Cyperus rotundus L.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medicated oil decoctions</td>
<td>Medicated decoctions</td>
<td></td>
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</tbody>
</table>
Disease-specific Measures

Like the management of hypertension, hyperglycemia, maintenance of urine output in CKD patients should be followed and monitored inevitably as per the condition and morbidity of the patient.

Need for Alternate Options in Palliative Care Management

Established palliative care practices for end-stage cancer patients are serving and helping the patients sufficiently good. Still, these can be supported with some additional measures of Ayurveda principles and practices for better convenience of patients. These measures are not supposed to supplant the established pattern but to work hand in hand for better QoL of these cancer patients. Ayurveda may offer some effective regimes based on classic principles and practices in such patients. Here, we are proposing some possible contributions of Ayurveda principles and practices in palliative care of terminally ill cancer patients.

Artificial feeding and hydration-

Besides established protein-calorie calculation, Ayurveda has a different point of view as far as quantitative food and liquid intake is concerned. While dealing with diet and intake of a person in routine practice, Ayurveda pays much attention to Agni (digestive capacity) and koshtha (the tendency of elimination) of a person/patient. But in terminally ill cancer patients, although important it is difficult to assess the status of Agni and koshtha, especially, if the patient is unconscious/semi-conscious/
in delirium. This is possible by assessment of patient's urine output, bowels, per abdomen examination, pulse examination and naadi-pariksha.10 In patients having decreased appetite and digestive disturbances, some classically mentioned formulations11 can be administered through nasogastric/gastric route for qualitative and quantitative feeding. Classical pharmaco-dietary preparations mentioned in Ayurveda classics may also use for a routine feeding. These formulations should be of Agni-friendly qualities viz. Laghu (easily digestible), ushna (warm), snigdha (unctuous), drava (liquid/semi-solid) etc. Classically mentioned various bhaishyakalpanas (types of formulations) viz. kwath, youscha, javagu, shaadav, paanak, etc. may provide options and choices to feed the patient more correctly and effectively.12 More importantly, these formulations are designed specifically by keeping into mind specific medicinal intentions like deepana (appetizers), pachana (digestives), anulomaka (carminatives), vata-shaamaka (vata-alleviating) and are also having disease-specificity, e.g. Shwasaharyavagu (soup for bronchial asthma patients) etc.13 Some formulations in above-listed bhaishyakalpanas are intent specific. For example, better nourishment (brimhana) of the patient by brimhanyavagu.14 The matra (amount of food/liquid input) probably be designed as per patient’s default food habits with appropriate consideration of current medical condition.15

Wound Care (Bed Sores)

For cancerous nonhealing wounds, general wounds and for bed sores, specific wound care and medicines mentioned in Ayurveda viz. Vrana karma (dressing), vranadhoopan (medicated fomentation of the wound), vranaropan (wound healing treatment), etc. can prove a boon. Cleansing of wounds with specific kledanashaka kwathas (decotions helpful for cleaning of the wound) like Triphala kwath, Panchavalkala kwatha help to remove and arrest slough formation and also avoid and cure local infections. Herbs like Guggulu (Commiphora wightii (Arn.) Bhandari), tagara (Valeriana wallichii DC.), vacha (Acorus calamus L.), nimba (Azadirachta indica A.Juss.), triphala, sarjarasa are used for dhoopanchikitsa.16-18 Similarly, honey, medicated oils, and ghees are mentioned in classical texts to clean and heal the chronic wounds by svanakarma (dressings).19,20 Also, dhoopana-chikitsa (medicated fomentation) is mentioned in Ayurveda to keep wound (and environment) clean and infection free.21 This can be practiced in palliative care in current scenario as well, as local treatment and also to keep healthy environment by fomentation of the wound and also fomentation of a room of a patient with various classically mentioned herbs like Guggulu (Commiphora wightii (Arn.) Bhandari), Nimba (Azadirachta indica A. Juss), Acorus calamus L., etc.18

Urine and Bowel-related Issues

Ayurveda proposes to avoid vegavarodha and vegodeerana (retention and induced expulsion of natural physiological urges like defecation, urination, thirst, hunger, etc.) for good health.22,23 These urges especially, urine, stool, and abdominal gases are not properly and adequately expelled in bedridden patients and patients disabled due to cancer. This brings about more vitiation of Vata and thus worsening the condition. Ayurveda advocates Basti (medicated enema) to alleviate vata dosha24 which also brings about normalization of body functions and mainly bowel evacuation and lubrication. Basti may help in smooth and proper evacuation of stools and abdominal gases in senile disabled patients, in patients who find it difficult to pass stools.24,25 Specially designed bastis of either medicated oils (matra basti/anuvasan basti) or of a mixture of decoction, honey, oil and rock salt (niruha basti) are used for this purpose. These bastis apart from bowel evacuation help to lubricate the GI tract, regulate gastrointestinal movements and functioning of the intestines, soften the impacted stool26 and alleviate Vata dosha and thus improving the patient condition for some instance.

Ambulation

To develop, maintain and improve ambulatory nature of the patient, along with physiotherapy and Yoga, snehana and swedana chikitsa27 (oil massage and fomentation therapy) may be performed. The routine activity of body and joints of bedridden cancer patients is very much limited. This brings about dullness, and complications like bed sores, thrombus formation, etc. With proper coordination with physiotherapy professional, the use of scientific massage with medicated oils (snehana) and medicated fomentation (nadi-sweda) movements, activity and strength of joints and muscles is achieved, maintained and developed. This helps not only in improving current quality of life but also in helping future rehabilitation of the patient.

Basti as a Mode of Nutrition and Route of Drug Administration

Basti is a specialized panchakarma procedure, which is used in a very broad spectrum of medical conditions. It is not meant for just bowel evacuation as in case of soap water enema. Unlike soap water enema, basti is comprised of various contents as per the medicinal intent, viz. medicated oils, decoctions, milk, honey, ghee, cow's urine, etc. The dose of basti depends on several factors like type of basti, nature of basti dravya, medicinal intent and tolerance/comfort of the patient. Classically, basti is said to be antiaging, improving QoL, good for strength, Agni, complexion, cognition. It can be used in any age group without any complications and alleviates many

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disorders. It evacuates imbalanced tridoshas, stool, urine from the body.\textsuperscript{28} Basti nourished the body as if any tree flourishes when watered at its roots.\textsuperscript{29}  

Basti can be a route of feeding in severely ill cancer patients, especially who are unable to consume food orally viz. patients of head and neck cancer, cancer of the esophagus, stomach. Also in cancer patients who are undergoing chemo/radiotherapy and suffering from severe nausea, vomiting, metallic taste, or patients having difficulty in maintaining ETF tube and IV line. The intra-venous line has its problems and complications over longer use, like thrombophlebitis. Secondly, it is difficult to fulfill the complete nutritional need of the patient through IV fluids. Hence, instead of choosing an option like nasogastric feeding or gastrostomy; basti chikitsa can be used to nourish the body by managing patient with specially designed bastis for the nourishment of the body.\textsuperscript{30,31} Many such specially designed bastis (yaapanabasti) are mentioned in classic texts which are mainly comprised of Ksheerapaka (milk), mamsarasa (meat soups), and some disease-specific herbs. These are described to increase bala (strength, vigour), mamsa (muscle strength and weight) and varna (complexion) of the body.\textsuperscript{30,32,33} Severely emaciated patients of cancer with the poor general condition can be benefited by ksheerabasti, yaapana-basti, mamsa rasa-basti. These patients can gain weight and strength by basti chikitsa along with improvement in their symptoms and QoL.\textsuperscript{34,35} This different route of nourishment may prove beneficial and also convenient to patients as well as to healthcare providers in long-term management of terminally ill patients. In severely ill and debilitated patients who even unable to retain such kind of basti; it is possible to administer the basti by drip method for better retention and absorption.\textsuperscript{36}  

When ingestion of drug per mouth is not possible, per rectal route can be chosen for drug delivery. Considering the Agni concept and role of the GI tract in drug metabolism, basti can be utilized as a mode of drug delivery. In case of severe fainting and blood loss and severe pallor, a basti containing fresh blood of an animal (goat) and a decoction of darbha (Desmostachya bipinnata (L.) Stapf) is advised in Charakasamhita. A systematic and safe application of this practice can be thought of in an appropriate case, possibly in severely anemic patients or in haematologically malignant cases.

Enough evidence are found about rectal feeding in various cultures like ancient Egyptian and Greek, where materials like barley, wheat, whey, wine, milk, eggs, and deer marrow.\textsuperscript{38}  

\textbf{Abhyanga (Oil Massage)}

As per the Ayurveda classic texts, abhyanga should be used regularly as, it promotes antiaging, alleviates fatigue and vata. It is beneficial for good vision, proper nourishment, long life, sound sleep, the good complexion of skin and strong body.\textsuperscript{39} Scientific and gentle massage with sesame oil (Tila taila abhyanga) can be used and utilized as a multipurpose tool. Oil nourishes the body, as the skin is the largest organ in the body.\textsuperscript{40,41} It strengthens muscles and joints by enhancing blood circulation also keeps joints well mobile, which is crucial in senile patients and longstanding diseases. Thus, abhyanga can be adapted as a routine daily treatment of such patients, under medical supervision.

\textbf{Shirodhara, Nasya, Karnapoorana}

The other treatment procedures like nasya (nasal instillation of medicine),\textsuperscript{42-44} karnapoorana (instillation of medicine in external ear),\textsuperscript{45} shirodhara (a procedure of pouring medicated oil/decoction/medicated milk on forehead),\textsuperscript{46-48} shirobasti (pooling the liquid medicines, herbal oils and/or decoctions in a compartment constructed over the head),\textsuperscript{49,50} shiro-abhyanga (head massage), shiropichu/thalam\textsuperscript{51} (medicated douche on head at anterior fontanel region) also can be routinely practiced to maintain or to improve good neurological state of the patients.

These procedures are having beneficial effects on indriyas (various basic and advanced neurological functions and centers of the brain).\textsuperscript{52} These measures can be practiced daily as a routine without any significant confounding risk. Shiro-snehan (with its above mentioned four types, i.e. abhyanga, seka, pichu, basti) with oils/milk/decoctions can be used in highly irritable patients for their psychological and social well being.\textsuperscript{53,54} Shirodhara is definitely helpful in reducing/avoiding the use of CNS depressing medications in these patients. Shirodhara is also having some “side-benefits” like sound sleep, reduction in stress etc.\textsuperscript{54}  

\textbf{Gandoosha, Kawala}\textsuperscript{55}  

Ayurveda recommends gandoosha (oil pooling in the oral cavity) and kawala (gargling) as dincharya (a daily practice) and also as treatment measures. In gandoosha, either of decoction, milk, medicated oil, and medicated ghee is retained in the mouth as long as possible. This is said to be helpful for good health and hygiene of oral cavity, the strength of teeth and gums.\textsuperscript{56} In kawala, the said liquids are used for gargling. Either or both of these two treatments can be used in various terminal cases of cancer mainly as a measure for oral hygiene. It may help in treating various disturbing symptoms and conditions like radiation mucositis,\textsuperscript{57} oral submucous fibrosis (OSMF),\textsuperscript{58} dry mouths, gum problems, dental symptoms, etc.

\textbf{Pain Management}

Pain is a prime concern in about every medical condition from patient’s perspective. Cancer pain with its
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According to the requirement which can be beneficial to concerned patients, Ayurveda can play a vital role in various aspects of palliative care including nutritional support, ambulatory support, bowel management, wound care, maintenance, and development of cognitive functions, pain management, etc. Ayurveda interventions have wide scope in palliative care and management of terminally ill cancer patients with its principles and practices, for the betterment of symptoms of the disease and/or for the quality of life of such patients. This is an attempt to suggest some possible interventions by Ayurveda principles and practices for additional benefits to terminal stage cancer patients, who are being nursed currently on the basis of the allopathic tenets. More suitable and more furnished practices can be added and adapted as per the requirement which can be beneficial to concerned patients.

REFERENCES


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Hindi Saransh

कैंसर के अत्यावश्यक रुग्णों की उपशास्त्र में आयुर्वेद विकल्प का संभावित योगदान

अग्रीशी देवमे, मनोहर एस. गुंडेटी, आर्य, गोविंद रेखी