

## Role of Vayahsthapana drugs in prevention and management of ageing

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### ABSTRACT

As we know that ageing is the accumulation of changes in an organism or object over time. In human it refers to a multidimensional process of physical, psychological and social change. The detail description of such drugs which are used in prevention and management of ageing are scattered all over the Ayurvedic texts, amongst them Vayahsthapana Mahakashaya of Charaka Samhita is very important. Other drugs which are described in Jivaniya Mahakashaya, Brimhaniya Mahakashaya, Balya Mahakashaya, Rasayana and Vajikarana drugs are also useful for the prevention and management of ageing. According to Ayurveda main cause of ageing is Dhatukshaya, which is based on poshana level, agni level and shrotas level. So the Jivaniya, Brimhaniya, Balya, Rasayana and Vajikarana drugs may be most beneficial for the prevention and management of ageing.

**Key words** Ayurveda, Vayahsthapana, Mahakashaya, Dhatukshaya, Rasayana and Vajikarana.

### INTRODUCTION

Ageing is not simply a feature of later life, but a lifelong activity. From the moment of birth, we are growing older, through infancy to childhood, adolescence to adulthood and onwards towards maturity. Changes do not happen overnight; over a period of years. We develop from one stage of our lives to the next and the stages merge into one another. We do not suddenly become old. Certainly our outward appearance may alter with the passing years, but our personalities, our ways of relating to other people and dealing with events in life, have developed and matured in earlier years rarely undergo radical change in old age. Ageing occurs at different levels-social, behavioral, physiological, morphological, cellular and molecular. So ageing is a fact of life, but as yet we understand very little about why it happens. Who declares health to be a state of complete physical, mental and social

wellbeing and not simply the absence of disease and infirmity. The structural and functional changes which occur with advancing years is called the ageing process<sup>1</sup>.

### The causes of ageing

There is no single known cause for ageing. Gerontologists have formulated number of theories for ageing. Loss of irreplaceable cells, Production of unsound cells, Limited capacity for division, Accumulation of waste products.

### Pathological ageing

Hypertension, diabetes mellitus, obesity, heart attack, stroke, peptic ulcer, constipation, jaundice, tuberculosis, lung cancer, arthritis, urinary problem, thyroid disease, cancer, surgical problems, sexuality in old age, psychiatrics problems like depression, dementia.

### Healthy ageing

Periodic health check-up, nutrition, exercise, prevention of osteoporosis, prevention of arthritis, care of special senses, maintenance of mental health, mental exercises, sound finance. The all will help both physical and mental health. With little bit of sound finance, elders living in joint family can definitely enjoy their old age.

### Etiopathogenesis

Ageing is the intermediate process that determines longevity of a person. It is a natural phenomenon, which can get accentuated by a most important factor-DISEASE. Very few people reach old age completely free of disease. Basically, a man's life span has been divided in to 3 stages Balyam, Madhyam and Jeernam. Jeerna vayah or old age is characterized by a decline in dhatus, senses, ojus, vitality, virility, retention, recollection, speech and understanding. The quality of dhatus is affected in old age and it is the period when vata dosha dominates and gradually the body undergoes degeneration. The tendency towards ill health in old age is made clear by the inclusion of ageing in the chaturvidha (4 types) of vyadhis namely Agantavah, Sareerah, Manasah and Swabhavikah. Here Jara and Mrityu both are included in Swabhavikah vyadhis. That is Ayurveda recognizes ageing as a natural disease along with hunger, thirst, sleep and death. In Ayurvedic terms, the state of homeostasis can be explained in terms of Doshasamyā, Dhatusamyā, Agnideepthi, Bala etc. All these entities age inter related and the most important of these factors are Agni & Bala. The strength or normally of Agni determines the state of Bala and on Bala depends the life of the subject. Bala is otherwise referred to as Ojus, the essence of the saptadhatus. Ojus pervades all through the organs of man, down to the cellular level. Its depletion and final absence is the cause of senescence. During the first stage of life upto 15 years, kapha predominates in the body. In the next 15 years, dhatus develop progressively, but satva is not perfectly formed. From the age of 30 upto 60<sup>th</sup> year, pitha predominates. Middle age is characterised by existence of dhatus as well as satwa. From 60<sup>th</sup> year onwards, it is the period of decline in the dhatus functioning of indriyas, memory etc. The quality and quantity of dhatus

is affected and vata predominates. The body gradually emaciates and perishes.

### Role of vata in causing senescence

The increase of vata dosha in old age causes depletion in reserves of Rasadhātu. This affects the synthesis of other dhatus and impaired nourishment of successive dhatus. Thus, ojas is affected and senescence results. Since dhatus cannot be considered in isolation from srotases and since no change in the body is independent of condition of shrotas and role of agni can be interrupted. These changes can be considered as occurring naturally, as a part of the irreversible process of ageing. This can be summarized as follows: Ahita ahara-viharas, Avidharana of manasika vegas. The factors lead to Prajnaparadha and ultimately to the diseased state accompanying senescence. Here, the progress of the condition (i.e. degeneration) can be explained in terms of the common samprapti of almost all the diseases. The nidanas cause doshadushti and doshadushti in turn, causes dhatudushti due to the close association of doshas and dhatus in the material body. Ultimately, the manifestation of signs and symptoms result, which may be attributed to the dosha component present in the dhatus.

There is no cure for timely ageing and death. Degenerative processes can be slowed down to some extent, but can never be reversed. Therefore, the relevance of Rasayana therapy comes in the context of premature ageing and death due to it. From the very definition of Rasayana<sup>2</sup> it can be seen that Rasayanatherapy aims ultimately at the attainment of perfect Rasadi dhatus. Rasayana drugs serve to meet this end, by acting at the level of Agni, dhatu and shrotas. The probable action whereby Rasayana drugs bring about their effect can be delineated as follows. Rasayana prayogas are generally advised to be administered only after proper shodhana therapy, which means that a favorable internal environment is required for proper action of rasayana drugs<sup>3</sup>. Proper shodhana karma, followed by samsarjana karma brings about agni deepthi which is effected up to the level of dhatwagnis. In yet another way, shodhana also produces the direct effect of srothonairmalya and dhatu suddhi by virtually removing the vitiated doshas located in the dhatus. It is rather difficult to

explain the mode of action of Rasayana oushadhas on the basis of Rasa, Guna, Veerya or Vipaka. But on close observation, it can be found that all rasayana drugs are capable of directly producing the effects of deepana and srotosodhana. Thus, it can be concluded that these drugs, unlike sodhana and shamana drugs or producers, can act at a more subtler level at the level of dhatus, finer srotases and dhatwaginis. So, once a Rasayana drug is administered in a body with a favorable internal environment created by sodhana chikitsa, it exerts maximum effect at the tissue level, enhancing the vitality of the of the body in all aspects.

Most of the rasayanoushadhis possess teekshna, and ushna properties by which they produce srotosodhana, deepana etc. though there are some exceptions like Amalaki. Amalaki or Dhatri is described as the drug having maximum vayasthapana property, but it lacks the properties of ushna and teekshna. The rasayana gunas that it imparts to the body can only be attributed to its prabhava. The aims of rasayana therapy are bestows youthfulness (Taraunam) Stamina (Dehabala) Strength of Vital organs (Indriya Bala) Intelligence (Medha) Memory (Smrithi) Complexion (Prabha) and prolonged life (Ayus).

#### Pharmacological and biochemical mechanisms

Nourishes and maintains the cell life Neutriceutical action, Encouraging the growth of new cells (Regenerative action), Preventing recurrent infection, expelling the damaged cells (Immunomodulatory action), Eliminate the toxic metabolites and pollutants. (anti oxidant action), Keep the balance between mind and body (adaptogenic). Rasa (Nutritional essence of food glucose, Fatty acids, amino acids, Minerals and Vitamins) is reached and recycled throughout the body by absorption, distribution and metabolism of macro and macronutrients taken in the food. To achieve the digestive system (Agni) should function properly. Hence the proper production of rasa can be achieved truly by the proper function of Agni.

#### Free Radicals and Antioxidants

Free Radicals (FRs) are generated as a result of incomplete reduction of oxygen during the course of various biochemical reactions<sup>4</sup>. These highly reactive, autocatalytic oxygen derived FRs

have a life span of a few microseconds and their concentration at any site is miniscule Excessive production FRs can overwhelm the intrinsic antioxidant defense mechanisms leading to many pathological lesions. A Free radical has been defined as "any species capable of independent existence that contains one or more unpaired electrons<sup>5</sup>. Antioxidants can be defined as substances whose presence in relatively low concentrations significantly inhibits the rate of oxidation of the above targets. Those available for therapeutic use can be conveniently divided into natural (Physiological) antioxidants normally present in the body. And synthetic compounds with antioxidant activity. Within each group the antioxidants may be enzymes that catalyze the breakdown of free radicals, those that prevent the participation of transition metal ions in free radical generation a free radical scavenger<sup>6</sup>.

#### Commonly used vayasthapana drugs and their pharmacological properties.

1. *Tinospora cordifolia* (Guduchi satva) - Immunomodulatory and Antioxidant
2. *Emblica officinalis* (Amla) fruit - Antioxidant, Nutritive
3. *Terminalia chebula* (Haritaki fruit) - Antioxidant
4. *Boerhavia diffusa* (Whole plant) - Antioxidant
5. *Sida cordifolia* (Root extract) - Antioxidant and Adaptogenic
6. *Ocimum Sanctum* (Leaves and steam) – Antistress, Adaptogenic and Antioxidant
7. *Terminalia arjuna* (stem Bark) - Hypocholesterolemic, Antioxidant
8. *Cassia fistula* (stem bark and flowers) - Antioxidant and Immuno modulatory
9. *Curcuma longa* (Rhizomes, Curcumin, Tetrahydro curcuminoids)- Antioxidant and Immuno modulatory (Anti tumour)
10. *Andrographis paniculata* (leaves, roots) – Antioxidant
11. *Semicarpus anacardium* (Nut extract) – Antioxidant and immuno modulatory
12. *Chavaprasam* (Formulation) – Nutrition, Antioxidant
13. *Chitraka Rasayanam* (Formulation) – Immunomodulatory, Antioxidant (in chronic pain)
14. *Withania somnifera* (root) – Adaptogenic and

- Antioxidant (small dose), Aphrodisiac (High dose)
15. *Shilajit* (Natural) – Antioxidant, Immunomodulatory, Adaptogenic and Antistress. Aphrodisiac at high doses.

### CONCLUSION

On the basis of above description we may conclude that mode of action of *vayahsthapana* drugs (Rasayana) depends upon *poshana* level, *agni* level and *shrotas* level. It has been described that in old ages *vata* increases spontaneously. *Dhatukshaya* and *Shrotorodha* are the predominant cause for *vata* *vridhhi*. *Dhatukshaya* may be

corrected by the Ayurvedic preparations and drugs which are described in above description. Generally it has been seen that the drugs having *madhur vipaka* are *vatashamaka* and *kapahavardhaka*. Drugs having the *kapahavardhaka* property provide nutrition to all *dhatu*s. *Tikta rasa* is more beneficial for *shrotosodhana* and *agnideepana*. Drugs which are beneficial in the improvement of ageing having the free radicals and anti oxidants properties.

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