



**PRAKRITI-CONCEPT OF BODY CONSTITUTION IN AYURVEDA AND
POSTMENOPAUSAL OSTEOPOROSIS**

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ABSTRACT

Ayurveda has a holistic approach and includes all the factors which are absolute or accessory in the determination of health. *Prakriti* is one of the most important concepts and it is decided at the time of conception. *Prakriti* indicates toward physical or *Dosha* constitution. Involvement of *Dosha* in *Prakriti* formation may be individual or intermingled. *Prakriti* also affects and decides the quality and rate of aging. Risk of osteoporosis is significantly associated with age, menopause age and duration of menopause, body mass index (BMI), educational level and alcohol consumption in postmenopausal women. Osteoporosis, a skeletal disease characterized by low bone mass, structural deterioration of bone tissue, and compromised bone strength predisposing to an increased risk of fracture. It is one of the most common metabolic diseases and a leading cause of morbidity and mortality in the elderly women. It is stat that several conditions such as aging, period of amenorrhea, parental histories of fracture, dietary calcium intake, vitamin D deficiency, low body mass index (BMI), reduced physical activity, and thyroid function have been proposed as associated factors in bone mineral density changes in the elderly. Concept of *Prakriti* can be helpful in the prevention and early management of diseases or infirmities due to aging such as osteoporosis. **Aim:** to define significant role of *Prakriti* in osteoporosis in postmenopausal women. **Material and methods:** *Ayurveda* as well as modern texts are approached for proper understanding of the subject.

KEYWORDS: morbidity, osteoporosis, *Prakriti*.

INTRODUCTION

Ayurveda has a holistic approach and includes all the factors which are absolute or accessory in the determination of health. *Prakriti* is one of the most important concepts of *Ayurveda*. This concept allows implementation of ways for not only personalized medicine and treatment but also personalized prevention. *Prakriti* is believed to be determined at the time of conception and remain unaltered during the lifetime with contributions from environmental factors including maternal diet and lifestyle.^[1] Some persons maintain the equilibrium from the very time of the conception; some are dominated by the vata, pitta and kapha. Those of the first category are not susceptible to diseases and rests of them are always likely to suffer, the body constitution of the persons is named according to the predominance of dosas.^[2] *Prakriti* is of seven types, i.e. *Vata*, *Pitta*, *Kapha*, three *dwanda* and *samadasha*.^[3] Each *Prakriti* has specific physical and mental constitutional characters which totally depend on the predominance of *Dosha*. The susceptibility to different diseases depends upon the type of *Prakriti* constitution in an individual. So assessment of *Prakriti* analysis will not

only help in understanding the physical and mental constitution of person, but also plays a vital role in prognosis, diagnosis, treatment and prevention of many complex diseases. Osteoporosis is such kind of disease which occurs in elderly women due to effect of aging. In postmenopausal women effective folliculo-genesis is impaired and there is significant fall in estrogen production. Ultimately, due to physiological changes GnRH, FSH, LH decline along with decline of estrogen. This decline in hormone leads to various organ changes and various symptoms. Thus post-menopausal women are at risk of osteoporosis, fractures, cardiovascular diseases and Heart diseases.^[4]

Concept of *Prakriti*

The word *Prakriti* has been derived from “*Prakarshen karoti iti Prakriti*” which means manifestation of special characteristics due to predominance. In *Ayurveda*, the word *Prakriti* has been used in the sense of *deha prakriti* or *doshaja Prakriti*. According to *rasa-vaisheshik*, *Prakriti* is a state which is formed at the time of fertilization due to eminence of *dosha*. It remains unchanged from fertilization till death. According

to Acharya *Sushruta and Charak*, *Prakriti* is determined at the time of fertilization due to the predominance or increased status of *dosha* which is normal or physiological.^[5] Although *Prakriti* is determined by the *dosha* predominantly involved, some other factors are also involved in the *Prakriti* formation. *Prakriti* displays basic physiological characters of an individual and it plays a significant role in prognosis of the disease.^[6]

Just as insects born in poison are not killed by that poison, similarly the constitutions will not be able to

harm the person.^[7] Characters which are manifested in a person of any specific *Prakriti* depend upon properties of the *dosha* involved. According to *Asthang Hridaya*, the properties of *vata dosha* are *ruksha*, *laghu*, *sheeta*, *khara*, *suksham*, *chala*, which produce different characteristics of *vataja prakriti*. In the same manner properties of *pitta dosha* are *sneha*, *tikshna*, *ushna*, *laghu*, *visra*, *saram*, *drava* and the properties of *kapha dosha* are *snigdha*, *sheeta*, *guru*, *manda*, *slaksna*, *mrtsan*, *sthira* respectively produce different characteristic of *pitta* and *kapha Prakriti*.^[8]

Table No 1.1 - Attributes and manifestation of Vata.

<i>Ruksha</i> (dry)	Dry, emaciation, dwarf body; long-drawn, dry low- broken-obstructed & hoarse voice; always keeping awake or disturbed sleep
<i>Laghu</i> (light)	Light & inconsistent gait and action, food & movement
<i>Chala</i> (mobile)	Unstable – joints, eye, eyebrows, lips, tongue, head, shoulder, hands & legs.
<i>Bahu</i> (abundance)	Talkativeness, abundance in tendons & veins.
<i>Shighr</i> (quick)	Quick in initiating action, getting irritated & the onset of morbid manifestation, quick in affliction with fear, quick in likes & dislikes, quick in understanding & forgetting things.
<i>Shita</i> (cold)	Intolerance for cold things often gets afflicted with cold, shivering & stiffness
<i>Parush</i> (rough)	Roughness in the hair of head, face and other parts of the body, nails, teeth, face, hands & feet
<i>Vishad</i> (non-slimy)	Cracking of the limbs & organs, production of cracking sound in joints when they move.

Table No 1.2 - Attributes and manifestation of Pitta.

<i>Ushna</i> (hot)	Intolerance of hot things, having hot face, tender & clear body of portwine marks, freckle, black mole, excessive hunger & thirst, quick advent of wrinkles, graying of hair & baldness, presence of some soft & brown hair on the face-head & other parts of the body
<i>Tikshn</i> (sharp)	Sharp physical strength, strong digestive power, intake food & drink in large quantity, inability to face difficult situations & glutton habits.
<i>Drav</i> (liquid)	Looseness & softness of joints & muscles, more sweating, urine & feces in large quantity.
<i>Visra</i> (fleshysmell)	Unpleasant smell of axilla, mouth, head & body in excess
<i>Katu-Amla</i> (Pungent & sour)	Insufficient of semen, sexual desire& procreation

Table 1.3 Attributes and manifestation of Kapha.

<i>Snigdha</i> (oily)	Limbs are oily (organs, skin & hairs)
<i>Shlakshn</i> (smooth)	Limbs are smooth (organs, skin & hairs)
<i>Mridu</i> (soft)	Pleasing appearance, tenderness & clarity of complexion
<i>Madhur</i> (sweet)	Abundant quantity of semen, desire for sex-act & number of procreations.
<i>Sara</i> (firm)	Firmness, compactness & stability of body.
<i>Sandra</i> (dense)	All organs properly nourished.
<i>Manda</i> (slow)	Slow in action, intake of food & movement.
<i>Staimitya</i> (stable)	Slowness in initiating actions, getting irritated & morbid manifestations.
<i>Guru</i> (heavy)	Stable gait with the entire sole of the feet, presenting against the earth.
<i>Shita</i> (cold)	Lack of intensity in hunger, thirst, heat & perspiration.
<i>Achchha</i> (clear)	Happiness in the look & face, happiness & softness of complexion & Voice

Dwandvaja prakriti

Individuals having a constitution dominated by a combination of two *doshas* are characterized by the combination of the manifestations of the respective *doshas*.

Samadoshaj prakriti

A *samadosha* type of individual who has all the *dosas* in a state of equilibrium is endowed with good qualities of all three types of individuals. These features of constitutions of person will neither increase nor change

or decrease. They do so only in diseased and great variations do happen prior to death.^[9]

Osteoporosis in postmenopausal women

Osteoporosis is caused by a loss of coupling in the bone remodeling process. The total bone mass of an individual is influenced by factors such as body build, race, gender, physical activity and general nutrition. Female of postmenopausal age is at risk of osteoporosis. It is defined as metabolic bone disease characterized by diffuse skeletal lesions in which normally mineralized bone is decreased in mass to the point that it no longer provides adequate mechanical support.^[10] Menopause is decline in collagenous bone matrix resulting in osteoporotic changes. Bone mass loss and micro architectural deterioration of bone tissue occurs primarily in trabecular bone (vertebra, distal radius) and in cortical bones. Bone loss increases to about 5% per year during menopause.^[11] Osteoporosis may lead to back pain, loss of weight, height and kyphosis. Fracture of bone is a major health problem. Fracture may involve the vertebral body, femoral neck, distal forearm (colle's fracture), morbidity and mortality in elderly women following fracture is high.^[12] The greatest bone loss occurs in women during perimenopause and is associated with estrogen insufficiency; a condition of menopause. It is due to an absolute increase in osteoclast activity. Increase in osteoclasts in the early postmenopausal skeleton is a direct result of estrogen withdrawal. The effect of lack of estrogen is not targeted directly to the osteoclast but rather to cells derived from marrow stroma, which secrete cytokines that recruit osteoclast. These cytokines are believed to be estrogen sensitive include IL-1, IL-6 TNF and M-CSF.^[13] Osteoporosis is an inevitable consequence of spinal cord injury and fragility fractures may occur. Heterotopic ossification may affect hips, knees, shoulders and elbows.^[14] World Health Organization (WHO) defines, up to 70% of women over the age 80 years have osteoporosis. Worldwide, it is estimated that 1 in 3 women above the age of 50 will experience osteoporotic fractures. Studies indicate that osteoporosis and osteopenia or low bone mass may occur at a relatively younger age in Indian population.

DISCUSSION

Prakriti highlights on the uniqueness of an individual and can play an important role in predictive, preventive and personalized medicine. *Hitakara Aahar* and *vihar* of one person may be *Ahitakara* to the other. So the knowledge of *Prakriti* is essential for the better physiological accomplishment, because to know the pathology, essential and basic knowledge of physiology is required. According to *Ayurveda*, an individual is born with a specific *Prakriti* that not only determines an individual's overall phenotype but also predicts the susceptibility to diseases and responsiveness to extrinsic and intrinsic factors of environments of the individual. *Prakriti* indicates toward physical or *Dosha* constitution. *Vata-pitta Dosha* are predominant in *Hani stage* and *Vata* is the predominant *dosha* in the old age.^[15] So *Vataj*

Prakriti person is supposed to be more affected by the features of aging due to *dhatu kshaya*. If a *vatala* type of individual resorts to such things as is aggravators of *vata*, *vata* in his body gets aggravated immediately. This does not happen in the case of the remaining two dosas. The aggravated *vata* afflicts individuals by the manifestation of diseases, resulting in impairment of strength, complexion, happiness and longevity.^[16] *Asthi* resides *vata*, in case of *vata*; they don't follow the same manner. Increase of *vata* causes decay of bones. So *Vataj Prakriti* people are more susceptible to bone infirmity and disease. So due to aging effect *Vata* is predominant in postmenopausal period and reciprocal relation of *vata dosha* with *Asthi dhatu* is responsible for *asthi dhatu kshaya* which may result as osteoporosis in some postmenopausal women. Especially female of *Vataj Prakriti* are at more risk as compare to *pittaj* and *kaphaj Prakriti*.

CONCLUSION

Asthi dhatu kshaya (osteoporosis) is one of the most common conditions in postmenopausal women. It is undiagnosed until the symptoms occur. The factors that aggravate *Vata dosha*, also contribute in augmenting the signs of *Asthi dhatu kshaya* (osteoporosis) because *asthi dhatu kshaya* is ultimately reciprocal to increased *Vata dosha*. Aging is also a responsible factor for increased *Vata* in postmenopausal. Therefore life style modifications should be made on the basis of *Prakriti* to preserve health and prevent *Asthi dhatu kshaya* in postmenopausal women. So there is an urgent need of proper maintenance of *Aahar* and *Vihar* in postmenopausal women. *Yoga*, exercise, meditation and lifestyle modifications are the helping tools to avoid any kind of infirmity. Calcium rich diet and daily exercise can assure a less morbid, comfortable and better quality of life for postmenopausal women so there is a need for greater public awareness about benefits of *Aahar* and *vihar* according to *Prakriti* to decrease the high burden of the disease osteoporosis and its costs to society and health care systems.

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