



Review Article

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A CRITICAL APPROACH OF Peshi: A REVIEW

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ABSTRACT

Dhatu is considered as nourishing and supporting matter of body. Peshi is dense form of mamsadhatu performing lepan karma of mamsadhatu along with strengthening the body. An individual with balanced proportions of muscles, compactness, and firmness is considered a balwan-purusha (physically healthy). Appropriate muscular constitution is necessary for overall physical, immunological and endocrinal health of body. Mamsadhatu is synonyms with muscular tissue, structure which is responsible for chesta and voluntary movements. Their function is prasaran (relaxation) and akunchan (contraction). Peshi also have contribution of raktavahasrotas (capillaries), ligaments and nerve fibers. Snayu, peshi, kandaras etc. also pertain to muscle. These all structures have significant role directly or indirectly in the samprapti and chikitsa of musculo-skeletal disorders. Mamsakshaya is very similar to balakshaya. Hence effect of ojas fall on mamsadhatu and vice versa. When an individual suffer from any chronic disease from prolonged period, other dhatu also reduced along with mamsadhatu. Abhyanga might help improve the muscle strength to a certain extent. Nutritional need to be taken care according to pathyaapathya and Rasayana therapy. In Ayurveda, there is a need to elaborate clinical aspects of peshi and search new possibilities for conceptual understanding along with clinical practice. The exact therapy for particular disease such as shastra (surgery), kashar application or agnikarma which are chief therapies for mamsadhatu.

KEYWORDS: bala, mamsa, muscle, peshi.

INTRODUCTION

In Ayurvedic classical text, dhatu is considered as nourishing and supporting matter of body. It undergoes various metabolic changes, leading various byproducts and nourish the body providing support throughout the life. Peshi is dense form of mamsadhatu which is arranged in various patterns separated from each other performing lepan karma of mamsadhatu along with strengthening the body. There are various patterns of peshi differentiated according to maintaining support and movement of body viz. bahala, pelava, sthula, anu, prithu, vritta, hrishwa, dirgha, sthira, mridu, slakshna, karkasa etc. are interpreted. In body sira, snayu (ligaments), asthi (bones), asthi-parva (joints of bones) and sandhi (other joints) of body are covered by peshi being strength of particular organ. Peshi is supposed to be part and parcel of mamsadhatu, as updhatu, sira, snayu, asthi, various joints and marma of body are packed with peshi. Acharya charak has stated that an individual with balanced proportions of muscles, compactness, and firmness is considered a balwan-purusha (physically healthy). These individuals are of balanced musculature can tolerate hunger, thirst, sun, cold and vigorous exercise along with equilibrium of agni (digestive fire) and metabolism. Appropriate muscular constitution is necessary for overall physical, immunological and endocrinal health of body. Physical strength is better accessed by evaluating the excellence of all dhatu. Mamsadhatu is chief component of mamsapeshi. Mamsapeshi contain raktavahasrotas, fibers of ligaments and nerves etc. in addition to mamsadhatu. Similarly, many parts of body are formed by mamsadhatu as a component like dhamni, sira, snayu, kosthanga and pratyanga. Mamsadhatu contain two forms i.e. poshak and poshyadhatu. Poshak mamsadhatu nourishes all the muscular tissue and some undergoes the metabolic process for development and nourishment of later dhatu i.e. medadhatu. Snayu, dhamini, ashya etc. The muscle tissue found in them is poshakdhatu. Peshi and snayu are structurally same as all muscles, ligaments and tendon are mesodermal in origin. In present article we tried to make a

conceptual understanding of peshi and comparison with various clinical aspects of Ayurveda. Peshi are the compact form of mamsadhatu, having muscle fibers are arranged side by side separated with each other. Peshis are lengthy and have fleshy appearance. Most of the treatise provides the brief knowledge regarding the peshi, but acharya Susruta mentioned more detailed about type location, distribution nature and functions. In body sira, snayu (ligaments), asthi (bones), asthi, parva (joints of bones) and sandhi (other joints) of body are covered by muscle they are strong. Peshi is supposed to be part and parcel of mamsadhatu, updhatu, sira, snayu, dhatu, asthi, various joints and marma of body are packed well with peshi and are thereafter fit and strong¹. Mamsa is principle binder of sira, snayu etc. and help asthi-dhatu for maintaining body pasture. It is therefore that strength of body is sustained, and it stands upright². Mamsapeshi gives strength and meant for non-displacement of soft tissue. Tissue which contract and relaxes is called kandra³. Bhavprakash mentioned that peshi responsible for movements of different parts of body⁴. In Amarkosha commentary mams synonym of food indicate utility of mams for other animal as food, mams of some animal are proved to be of great nourishing value to human⁵. These references make it clear that peshi means muscle which is made up of muscle tissue that constitute by elongated, cylindrical muscle fibers and main function of a muscle is to provide movement of body along with maintenance of posture and body position.

PESHI

- According to commentator Dalhana peshi is mamskhand i.e. part of muscle⁶.
- Compact form of mamsa get differentiated to makeup structure of peshi⁷.
- Commentator Indu elaborates that peshi is having muscular composition along with a shape corresponding to snayu⁸.

- Acharya Charka has stated that formation of peshi do occur during second month of intrauterine life which get differentiated at later stages into various organ system⁹.
- Acharya Gananatha Sena has elaborated morphologically that peshi are mostly like structure as of a rope being thick at center and thin at end parts¹⁰. Some are also of different structure like koshakara, nalakakara, sutrakara, rajjavakara, talavrantakara and sharapunkhakara. These rajjavakara, talavrantakara and sharapunkhakara have two ends. These ends may be snayumaya.¹¹
- Word “Pesi” in Ayurveda has been used to denote fascia, muscle and ligament etc. in different contents.

Formation

- Acharya Susruta¹² mentioned that vayu (vata) combined with usma (pitta) for the same purpose, creates the srotas (channels) entering into the muscle tissue, the vayu and pitta divide the muscle into peshi (individual muscle).
- Commentator Dalhana mentioned that firstly vayu along with usma i.e. pitta form the new srotas and then get into muscle and differentiate it into peshi¹³.
- According to Acharya Kashyap¹⁴ asthi and mams of embryo are developed from sukra which later differentiated into snayu during fetal development.
- Acharya Charaka tells the formation of mams i.e. Raktdhatu is fluid which reaches mamsvahsrotas and is acted upon by mamsdhatwagni along with vayu, jala and tejas stabilize fluid raktdhatu into solid mamsdhatu¹⁵.
- Vatadosha divides mamsadhatu into smaller parts called peshi¹⁶.

Panch-bhautic Constitution

Though every substance is made of all five mahabhuta i.e. akasha, vayu, agni, jala, prithvi. Commentator Chakrapani has elaborated that mamsa is predominant of prithvi mahabhuta¹⁷ Acharya Charaka in formation of mamsa mentioned the role of vayu, jala and tejas mahabhuta¹⁸. The solid and compact structure such as muscle fibers, nerves and other structural protein can assumed as attributes of prithvi mahabhuta. Liquid protein present inside the cell i.e. intra-cellular fluid, secretion from intra cellular structures can be considered as jala mahabhuta. Agni mahabhuta can be considered as neurotransmitters, ionic variations, ATP etc. necessary for initiation and continuation of muscle contraction. Process of thin and thick filaments, movement of ions, nerve signals, and function of regulatory protein can be considered as vayu mahabhuta. Space present inside various organs and various channels present for secretions can be attributed to akasha mahabhuta.

Mams dharakala¹⁹ is first kala explained by acharya is out of seven kala. Kala function for support and for morphologically differentiation of dhatu. Dhatu production is sequence for serial nourishment of dhatu. Rasa-rakta-mamsa it is sequence of nourishment; whereas kala is meant for dharna-karma i.e. for support and thereafter the sequence is different it is start from mams instead of rasa. Mamsadhatu is first immobile dhatu. Support can be given with sthira or firm subjects. Hence mams dharakala supposed to be first one to support developing fetus. So first is mams dharakala which is present inside the muscle and which allow the siras (vein), snayu (ligament) and dhamni (arteries) to spread their branches inside the muscle²⁰. Histologically mams dharakala can be understood along with inter-muscular septum, as well as epimysium, endomysium which are covering of a muscle, fasciculi and individual muscle fiber respectively.

Mamsvahsrotomula

Mamsvahsrotomula²¹ is mentioned as snayu, twacha and raktwahi-dhamni. In this context snayu relate to nerves, as the nerve innervate the myotome, the blood vessels are the supplies of protein, calcium and other nutrients to muscles, whereas skin gives support and protects the skeletal muscles. Therefore, these three structures are directly related to development, nourishment and maintenance of muscles. In certain congenital disorders like neuromuscular disorders, myasthenia gravis there is involvement of vessels and nerves which can be considered as the involvement of mamsvahsrotas.

PESHISWAROOPA/ TYPES²²

Peshi are twelve in number on the basis of shape. Bahala are all muscles which are broad and large. These can be correlated with diaphragm, rectus abdominis etc. commentator Dalhana²³ elaborates bahala is bahutara means muscles with multiple layers such as muscles of thoracic wall (external, intermediate and internal muscles). Pelava are considered as small sized muscles also commentator Dalhan elaborates pelava as alpa i.e. little muscles viz. pyramidalis, anconeus etc. Sthula can be understood as heavy and big muscles of body such as gluteus maximus, pectoralis major, diaphragm etc. Anu are very small. Dalhana elaborates anu as sukshma indicating very small muscles such as stapedius, subclavius etc. Prithu is considered as flat muscles. Commentator Dalhana elaborates prithu as vistirna means spread over large area. Prithu can be understood as flat and broad muscles covering a large area such as occipito-frontalis, latissimusdorsi, trapezius, external oblique etc. Vritta is round in shape. Commentator Dalhana has considered vritta as vartula, indicates round shape (tares) muscles of the body viz. teres major, teres minor etc. hrswa is short. Commentator Dalhana elaborates hrswa as adirgha means muscles which are not much long. All the short muscles (brevis) can be considered here viz. adductor brevis, extensor hallucis brevis etc. Dirgha is considered as long muscles. Commentator Dalhana elaborates dirgha as ayata means rectangular in shapes such as longuscolli, longuscapitis, Sartorius (Longest muscle of body). Sthira considered as firm. Commentator Dalhana considers sthira as kathina. Both concepts indicate all the firm and stable muscles like deltoid, rectus femoris, Coccygeus etc. Mridu is soft in constitution. Commentator Dalhana considers mridu as komala indicating all soft muscles such as visceral muscles like cardiac muscles, muscles of bladder etc. can be considered in this regard. Slakshna is smooth in texture. Commentator Dalhana considers slakshna as sparsasukha indicating mucosal and sub mucosal membranes of viscera. Definition indicate the functional aspect of muscles which are rich in blood supply as well as nerve supply such as muscles of lip and labial muscles, Intrinsic muscle of eye etc. Karkasha is rough in texture. Commentator Dalhana considered karkasha as opposite to shakshna i.e. rough can be considered as muscles having serrated and irregular border such as serratus anterior, lumbricals etc.²⁴.

Table 1: Number of peshi

Acharya Sushrut Vaghhbata ²⁵	Male – 500 Female – 520
Bhavprakash ²⁶	
Acharya charka ²⁷	400

According to Ayurveda, there are 500 peshi in Male among them 400 are in extremities (Shakha), 66 in trunk region (kostha) and 34 are in neck region (griva). While in female there is twenty peshi are more than males. They are five (5x2) in each breast, four peshi in apatyapatha (two sphincter vaginae and two muscular layer of vagina canal), three peshi in garbhachidra (Utero-sacral, cardinal and pubo-cervical ligaments), three peshi in sukra-arthvapavesini (cervix and fallopian tubes). Breasts or even

chests of female do not contain any extra muscle than male thus. It is difficult to explain ten Pesi of breasts. One peshi present in lakshna (penis) and musaka (scrotum) in men, they only are present in women covering phala (ovaries).²⁸

Table 1.1: Urdhva and Adha-Shakha (Upper and Lower Limbs) - 400

Limb	In one	In Four
Pada-anguli (fingers)	(1x3x5) 15	60
Prapada (fore foot)	10	40
Near kurcha (brush like structures/aponeurosis)	10	40
Gulfa tala (soles)	10	40
Between Janu and Gulpha (anterior, medial, lateral and posterior region of legs)	20	80
Janu (popliteal fossa)	5	20
Uru-Pradesh (anterior, posterior and medial thigh)	20	80
Vanksan (groin region)	10	40
Total	100	400

Table 1.2: Madhyamanga (Thorax and abdomen)/kosta-anga – 66

Region of Muscle	Number
Guda Dwar (anal region)	3
Medra (penis)	1
Sevani (raphae underneath the penis)	1
Vrasana (testis)	2
Nitamba (gluteal region)	5x2=10
Bastishira (muscles of urinary bladder)	2
Udar (abdomen)	5
Nabhi (umbilicus)	1
Prustabhag (upper part of back)	5x2=10
Parsava (flanks)	6
Akshak (near clavicle and shoulder)	7
Thorax / urah	10
Hridaya, Amashaya	2
Yakrit, pleeha, unduk (liver, spleen, caecum)	6

Table 1.3: Shiro- Greeva(Neck and Head) – 34

Region of Muscle	Number
Greeva (neck)	4
Hanu (lower jaw)	1
Kakala (cricoid)	1
Talu (soft palate)	2
Jihwa (tongue)	1
Netra (eyes)	2
Ostha (lips)	2
Ganda (cheeks)	4
Karna (ears)	2
Lalata (forehead)	4
Shira (head)	1

The muscle tensile strength is important and not the muscle size. Peshi is capable of doing more work without injury. It also conveys psychological signs of a healthy mamsadhatu are self-confidence, courage, patience, perseverance, stability, openness, forgiveness, happiness, and a feeling of strength & vitality²⁹.

DISCUSSION

Mamsadhatu is main component of peshi. Peshi also have contribution of raktavahasrotas (capillaries), ligaments and nerve fibers. Snayu, peshi, kandaras etc. also pertain to muscle. These all structures have significant role directly or indirectly in the samprapti and chikitsa of musculoskeletal disorders. However muscular wasting or hypertrophy may be associated with chronic illnesses, nutritional deficiencies or neuromuscular disorders. Many neuropathies also affect muscle debilities. Muscular dystrophy or wasting is due to neuromuscular disorder.

Myasthenia gravis is a disease in which acetylcholine secretion is affected. Mamsakshaya is very similar to balakshaya. This clarifies direct relationship with ojas. Ojas is regarded as sara or essence of all dhatu including mamsadhatu. Hence effect of ojas fall on mamsadhatu and vice versa. When an individual suffers from any chronic disease from prolonged period, other dhatu also reduced along with mamsadhatu. Balakshaya also appears. Bala is stated to be assessed on the basis of vyayam shakti. Vyayam shakti is associated with strength, stamina and normalcy of mamsadhatu. Loss of protein manifests as mamsakshaya. According to Ayurveda, mamsavrittavata or mamsagatavata clearly can understood by bala. Vitiatio of bala are of three types viz., vyapad, vishransh and ksahya. Vyapad is first stage of bala depletion characterized by sandhi-vishlesha (joint dislocation) gatasada (numbness), dosha-chayvanam, kriya-sannirodha (loss of movement). Similarly in muscular hypertrophy or dystrophy gradually results in loss of function. Vishramsha is a stage characterized by stabadh-gurugatrata stiffness and heaviness of body vatashopha and varnabheda (discoloration) glani (tiredness), tandra (drowsiness) and nidra (sleepiness). Third stage is kshaya leading to death. All three stages resemble muscular atrophy. Myopathy is neuro-muscular disorder characterized by progressive skeletal muscle weakness defect in muscle protein and death of muscle cell. Muscular dystrophy do not develop due to nutritional deficiency so these cannot be cured by consuming the products of similar qualities of meat. The concept based of sarvada-sarva-bhavanam-samanyam-viddhi-karnam is not applicable for genetic disorders. Disuse atrophy may improve with regular exercise as if not associated with neurogenic origin. If wasting develops from nutritional deficiencies it can be easily cured with supplementation of mamsa such as marasmus, kwashiorkor. Many neuropathies affect muscle debilities in hypertrophy and dystrophy only approach is panch-karma therapy. The exact karma should be selected as it varies from case to case according to state of aam, agni, srotas and vayadhi. Abhyanga might help improve the muscle strength to a certain extent. Nutritional need to be taken care according to pathya-apathya. Rasayana therapy also have a great hand in ojas debilities should also have same importance in muscular disorders at early stages.

CONCLUSION

Ayurveda describes various components of body starting from micro to macro level. Musculoskeletal components are macroscopic or gross structures including Bones, Muscles, Cartilages, Tendons, Ligaments, Joints and other connective tissues combining tissues and organ system. Practically mamsadhatu is synonyms with muscular tissue, structure which is responsible for chesta and voluntary movements. Their function is prasaran (relaxation) and akunchan (contraction). In Ayurveda, there is a need to elaborate clinical aspects of peshi and search new possibilities for conceptual understanding along with clinical practice. The exact therapy for particular disease such as shastra (surgery), kashar application or agnikarma which are chief therapies for mamsadhatu.

REFERENCES

1. Murthy K.R.S., Susruta Samhita, vol-1, Sharir Sthan, Chapter-3, Shlok-41, Edition- 2012, Chaukhamba Orientalia, Varanasi, Page no 98.
2. Murthy K.R.S., Susruta Samhita, vol-1, Sharir Sthan, Chapter-5, Shlok-23, Edition- 2012, Chaukhamba Orientalia, Varanasi, Page no 86.
3. Shastri P.R., Samgadhara Samhita, Purva Khanda, Chapter-5, Shlok-39, Edition- 2013, Chaukhamba Publication, New Delhi, Page no.56.
4. Sitaram B, Bhavaprakasa, vol-1, 3/148, Edition-2012, Chaukhamba Orientalia, Varanasi, Page no. 34.

5. Shastri H, Amarkosha, 2/6/63, Edition-2009, Chaukhamba Orientalia, Varanasi, Page no. 287.
6. Yadavji T, Susruta Samhita, vol-1, Sharir Sthan, Chapter-4, Shlok-28-29, Edition- 2012, Chaukhamba Orientalia, Varanasi, Page no. 358.
7. Yadavji T, Susruta Samhita, vol-1, Sharir Sthan, Chapter-5, Shlok-37, Edition- 2012, Chaukhamba Orientalia, Varanasi, Page no. 368.
8. Murthy K.R, Astangasangraha, vol-2, Sharir Sthan, Chapter-5, Shlok-54, Edition- 2012, Chaukhamba Orientalia, Varanasi, Page no. 71.
9. Sharma P.V, Charak Samhita, vol-1, Sharir Sthan, Chapter-4, Shlok-10, Edition- 2008, Chaukhamba Orientalia, Varanasi, Page no. 430.
10. Teena et al, classification of muscles according to their morphology described in sushruta samhita w.s.r. To "तासां बह्वेदेष्वस्त्राणु...". World Journal of Pharmaceutical and Medical Research, 2017,3(8), 420-424.
11. MahaMahopadhyay S.G. Pratyaksha Shareeram, vol-2, Edition-2000, Krishnadas Academy, Varanasi, Page No. 2.
12. Murthy K.R.S., Susruta Samhita, vol-1, Sharir Sthan, Chapter- 4, Shlok-28-29, Edition- 2012, Chaukhamba Orientalia, Varanasi, Page no 60.
13. Yadavji T, Susruta Samhita, vol-1, Sharir Sthan, Chapter-4, Shlok-28-29, Edition- 2012, Chaukhamba Orientalia, Varanasi, Page no.358.
14. Bhisgacharya S. Kashyap Samhita, Sharir Sthan, Chapter-2, Shlok-2, Edition- 2009, Chaukhamba Sanskrit Sansthan, page no.70.
15. Sharma P.V, Charak Samhita, vol-2, Chikitsa Sthan, Chapter-15, Shlok-29, Edition- 2008, Chaukhamba Orientalia, Varanasi, Page no. 251.
16. Sitaram B, Bhavaprakasa, vol-1, Chapter-3 143, Edition-2012, Chaukhamba Orientalia, Varanasi, Page no.33.
17. Yadavji T, Susruta Samhita, vol-1, Sutra Sthan, Chapter-15, Shlok-10, Edition- 2012, Chaukhamba Orientalia, Varanasi, Page no.69.
18. Sharma P.V, Charak Samhita, vol-2, Chikitsa Sthan, Chapter-15, Shlok-29, Edition- 2008, Chaukhamba Orientalia, Varanasi, Page no. 251.
19. Shastri P.R., Sarngadhara Samhita, Purva Khanda, Chapter-5, Shlok-6, Edition- 2013, Chaukhamba Publication, New Delhi, Page no. 43.
20. Shastri P.R., Sarngadhara Samhita, Purva Khanda, Chapter-4, Shlok-8-9, Edition- 2013, Chaukhamba Publication, New Delhi, Page no. 55.
21. Murthy K.R.S., Susruta Samhita, vol-1, Sharir Sthan, Chapter-9, Shlok-12, Edition- 2012, Chaukhamba Orientalia, Varanasi, Page no 149.
22. Murthy K.R.S., Susruta Samhita, vol-1, Sharir Sthan, Chapter-5, Shlok-40, Edition- 2012, Chaukhamba Orientalia, Varanasi, Page no 98.
23. Murthy K.R.S., Susruta Samhita, vol-1, Sharir Sthan, Chapter-5, Shlok-40, Edition- 2012, Chaukhamba Orientalia, Varanasi, Page no 368.
24. Lakhprova Doley et al. An analytical study of musculoskeletal component in Ayurveda: A review. Int. J. Res. Ayurveda Pharm. 2017; 8(6):43-47 <http://dx.doi.org/10.7897/2277-4343.086289>.
25. Shastri S.H. Astangahrdaya, vol-1, Sharir Sthan, Chapter-3, Shlok-17, Edition- 2010, Chaukhamba Orientalia, Varanasi, Page no.398.
26. Sitaram B, Bhavaprakasa, vol-1, 3/145, Edition-2012, Chaukhamba Orientalia, Varanasi, Page no.33.
27. Sharma P.V, Charak Samhita, vol-1, Sharir Sthan, Chapter-7, Shlok-14, Edition- 2008, Chaukhamba Orientalia, Varanasi, Page no. 459.
28. Tiwari P V, Ayurvediya Prasuti Tantra Avem Stree Roga, vol-1, Edition-2009, Chaukhamba Orientalia, Varanasi, Page no.22.
29. Sharma P.V, CharakSamhita, vol-1, Viman Sthan, Chapter-8, Shlok-105, Edition- 2008, Chaukhamba Orientalia, Varanasi, Page no. 378.

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