



Review Article

Volume 11 Issue 6

Nov-Dec 2022

A CRITICAL STUDY OF “PESHI” AS DESCRIBED IN SUSHRUT SAMHITA:

A REVIEW ARTICLE

¹Nitin Kumar, ¹Raju Verma, ²Dr Jannu Manohar and ³Dr. Sakshi

¹PG Scholar Deptt of Rachana Sharir

² Professor Deptt of Rachana Sharir

³ Associate Professor Deptt of Rachana Sharir

Sri Ganganagar College of ayurvedic science and hospital

Tantia University, Sri Ganganagar (Rajasthan), INDIA

ABSTRACT

Ayurveda is a human science. It provides knowledge of the structural and functional constitution of the human body. Sushrut, “Father of Surgery” according to Ayurveda, describes the human body to be made up of 6 major parts –Shadanga–4 Shakhas (extremities), Madhya(middle part/trunk) the fifth and Shira (head) the sixth. These parts are further subdivided into Pratyangas (sub-parts) like Sira (veins), Dhamani (arteries), Srotas (channels), Asthi (bones), Sandhi (joints), Avayava (organs), Kala (membrane) etc. Peshi is one of the Pratyangas described by Sushrut. Peshi is developed from Pishit (Mamsa/ muscle) and is present in close relation to Sira, Snayu (ligaments), Asthi and Sandhi enveloping and protecting them. The information available regarding the Peshi evokes the curiosity to determine the anatomical structural entity described in the classics. This study, therefore, analyses the information and tries to correlate it with the most suitable anatomical structure with logical interpretation.

Keywords: Peshi, Pishit (Mamsa / muscle), Sira, Snayu, Sandhi

INTRODUCTION

In Ayurveda, the cadaveric dissection is explained by Acharya Sushrut. Sushrut was a physician who considered Surgery the first and foremost branch of medicine.¹ He stated that Surgery has the superior advantage of producing instantaneous effects using surgical instruments and appliances. He gave a detailed account of surgeries like Plastic surgery, Dental surgery, Cataract surgery etc. He even developed a unique method of dissection known as “Mrut-sanshodhan Paddhati” which is explained in V chapter of Sharirasthanain Sushrut Samhita. The observations of the anatomical structures found in dissection are noted in the form of verses by Sushrut in Sushrut Samhita and these are considered to be the best available descriptions of anatomical structures from Ayurvedic point of view. One of these structures is Peshi. Description of Peshi is available regarding its utpatti (development), sankhya (number), sthaan (location), karya (function) & swarup (appearance). But still the available information fails to explain the exact anatomical structure of Peshi, which leads to many unanswered queries regarding Peshi such as -Is ‘Peshi’ an independent structure? What is the structural difference between the terms Peshi, Pishit, Mamsa and Snayu according to Sushrut Samhita? Though the development of Peshi is mentioned from Pishit in Sushrut Samhita, is there any functional difference between Peshi & Pishit?

FORMATION/ DEVELOPMENT-

According to Acharya Sushrut, during embryological development, ushma (pitta/heat) yuktavayu (vata combined with heat) enters Pishit (Mamsa / flesh) and develops Peshi.

Function-

Sira (vessels), Snayu (ligaments), Asthi (bones) & Parwa sandhi (small & big joints) are Sanvritani (covered / enveloped) by Peshi. Therefore, Peshi exists along Sira-Snayu-Asthi-Sandhi as their covering. Covering or ensheathing by Peshi is important for maintaining bala (strength) of Sira, Snayu, Asthi & Sandhi.

Peshiswaroop/ Types-

While covering joints, bones, blood vessels and ligaments, Peshi become naturally, according to place, thick or thin, big or minute, stout/thick or round/circular, short or long, stable, hard or soft, smooth or rough (coarse).

Total no. of Peshi-

Peshi is 500 in number of these, 400 are in shakhas (extremities), 66 in koshta (trunk) and 34 in the greeva (neck) and the region above it.

Additional Peshi in female body -

There are 20 additional Peshi present in the female body. 05 are present in each breast which develops during puberty ($05 \times 02 = 10$), in Apatyapathe (vaginal track) - 04, Garbhachhidra sanshrit (at cervical opening) - 03 and Shukra-artavapraveshinya (for the passage of shukra and artava) - 03

OBSERVATION ON CLINICAL ASPECTS/ APPLICATIONS OF Peshi 1)

1) As the development of Peshi is from 'Pishit' which is a synonym of Mamsadhatu, the functioning of Mamsadhatu will invariably affect the Peshi which will lead to Prakrut (normal) or Vikrut (abnormal) sanvritatva (ensheathing/covering) by Peshi. This type of unsheathing is responsible for providing Prakrut (normal) or Vikrut (abnormal) bala (strength) to Sira, Snayu, Asthiparwa and San-dhi.

2) Mamsagatashalya (foreign body lodged in Mamsa/ muscle) shows Shophaabhivridhi (increase in swelling), Shalyamarganupasamroha (non-healing of foreign body entry site or appearance of new growth in the path), Peedanasahish-nuta (tenderness), Chosha (sucking heat) and Paka (inflammation/formation of pus). Peshigatashalya (foreign body lodged in Peshi) shows the same symptoms except sucking pain and swelling.

3) In Mamsagatavrana (wound residing in Mamsa/ muscle), the vranasrava (exudate) resembles sarpi (ghee), Sandra (thick), Shweta (white) and pichhil (slimy). There is no mention of exudate in case of Peshigatavrana (wound in Peshi).

4) Foreign bodies either big or small, when present in persons whose body is pure (shuddha / un-vitiated by aggravations of doshas) and when it has stayed in the directions of the hair (Anuloma-gati), then it shows significant healing of the sa-shalya site, especially those present in passages / hollow spaces like Kantha (throat), Sira (blood vessel), Asthi (bone) and Peshi.

5) Determination of Peshi pranashtashalya (foreign body lost/concealed) site can be done by making it prachalit (loose/non-sticky) using snehana-svedanadi kriya (oleation – sudation and other therapies) so that the site gives rise to redness and swelling or pain and makes it easier to find.¹

DISCUSSION

DISCUSSION ON THEORETICAL DETERMINATION OF PESHI

For any structure to be labelled as Peshi, it must fulfil certain criteria like -the structure should be situated about Sira, Snayu, Asthi, Sandhi independently or united. Also, the structure should have the capability to form vivarayuktarachana (hollow structure) as per the need of Sanvritatva (ensheathing /covering) at the location where it is situated. At the same time, it should have 'darun' (tough) texture as compared to Pishiti. i.e. Mamsa, since Peshi is developed as a result of darankarmabyvata with heat. Lastly, after being embedded by a foreign body, the structure should have the capability to produce symptoms like tenderness, inflammation/pus formation and non-healing of the wound without producing symptoms like sucking heat and morbid swelling at the site. After interpreting the above-mentioned points, it can be said that:—"There is the structural difference between Pishiti i.e. Mamsa and Peshi which is found described in Sushruta Samhita as

- 1) The term 'Mamsa' is used for the entire musculature with a muscular appearance. Hence, its number is not found described. Functionally, the term 'Mamsa' is used to describe the kriyavyapar of Mamsadhatu and Mamsa (i.e. tissue with muscular appearance).

- 2) The term 'Peshi' is found described for the tissue type other than the tissue of muscular appearance. Maybe, a tissue with fibrous appearance having the characteristics of covering or unsheathing the Sira, Snayu, Asthi and Sandhi."

STUDY OF MODERN LITERATURE

To find a tissue with a fibrous appearance, a review of the types of tissues is required. There are 4 different types of tissues in human beings –epithelial, muscle, nervous and connective.

Epithelial Tissue -Epithelial tissues are widespread throughout the body. They form the covering of all body surfaces, line body cavities and hollow organs and are the major tissue in glands. They perform a variety of functions that include protection, secretion, absorption, excretion, filtration, diffusion and sensory reception.¹⁶

Muscle -Muscles are the largest soft tissues of the musculoskeletal system. The muscle cell, muscle fibre, contains protein filaments of actin and myosin that slide past one another, producing contractions that move body parts, including internal organs. Associated connective tissue binds muscle fibres into fascicles or bundles, and these associated connective tissues also convey nerve fibres and blood vessels (capillaries) to the muscle cells.

Nervous Tissue-It is found in the brain, spinal cord, and nerves. It is responsible for coordinating and controlling many body activities. It stimulates muscle contraction, creates an awareness of the environment and plays a major role in emotions, memory and reasoning. The cells in the nervous tissue communicate with each other by way of electrical nerve impulses. The cells in the nervous tissue that generate and conduct impulses are called neurons or nerve cells. Nervous tissue also includes cells that do not transmit impulses but instead support the activities of the neurons.¹⁸ Connective Tissue- Tissue that supports, protects and gives structure to other tissues and organs in the body.

Connective tissue also stores fat, helps move nutrients and other substances between tissues and organs, and helps repair damaged tissue. Connective tissue is made up of cells, fibres and a gel-like ground substance.¹⁹ The connective tissues differ considerably in appearance, consistency and composition in different regions of the body according to local functional requirements. Depending upon the type of cells, concentration, arrangement and types of fibre and character of ground substance, connective tissues can be classified into regular and irregular:-

- a) Regular connective tissue includes those highly fibrous tissues with fibers regularly oriented, either to form sheets such as fasciae and aponeuroses or thicker bundles such as ligaments or tendons.
- b) Irregular connective tissue can be further sub-divided into -loose, dense, and adipose.

LOOSE (AREOLAR) CONNECTIVE TISSUE-

It is extensively distributed, and its chief use is to bind parts together, though allowing a considerable amount of movement to take place because of its elasticity. It consists of a meshwork of thin collagen and elastin fibers interlacing in all directions to give a measure of both elasticity and tensile strength. The large meshes contain soft, pliable, semifluid ground substances composed of proteoglycans, the different connective tissue cells scattered in the mesh. Occasional adipocytes are seen particularly around blood vessels.

DENSE IRREGULAR CONNECTIVE TISSUE-

It is found in regions that experience considerable mechanical stress and where protection is given to unsheathed organs. The matrix contains a high proportion of collagen fibers which form thick bundles interweaving in three dimensions and giving considerable strength. Active fibroblasts are few and most are flattened with heterochromatic nuclei. The vascular supply is limited, as might be expected. Examples may be found in the reticular layer of the dermis, the connective tissue sheaths of muscle and nerves and the adventitia of large blood vessels. The capsules of various glands, the coverings of various organs such as the penis and testis, the sclera of the eye and periosteal and perichondria are all composed of dense irregular connective tissue.

ADIPOSE TISSUE-A few fat cells appear in loose connective tissue in most parts of the body. However, in adipose tissue, they occur in great abundance and constitute the principal component. Adipose tissue occurs in only certain regions and this selective distribution suggests that the fat is deposited in genetically determined sites. It occurs in abundance in subcutaneous tissue, around kidneys, in the mesenteries and omental, in the female breast etc.²⁰ After going through the description of tissues, it was found that the description of 'Peshi' is anatomically similar to the description of Dense Irregular Connective Tissue (D.I.C.T.) which is present in the coverings of various organs, in the periosteum and perichondrium.

(B) CADAVERIC STUDY Cadaveric study for the determination of Peshi was carried out by following the guidelines of Cunningham's Manual of Practical Anatomy. The view of Sushrutacharya was also considered during the study.

Macroscopic study-As it was necessary to study Peshi thoroughly as an anatomical structure, it was done by dissection of Mamsa.

CONCLUSION

After the theoretical and cadaveric study, it can be concluded that 'Peshi' is an independent structure and is structurally different from Mamsa (muscle/flesh) from which it develops. The probable anatomical structure which is expected to be described by Acharya Sushruta under the terminology of 'Peshi' is made up of tissue type other than muscular appearance. It is a tissue with a fibrous appearance having characteristics of covering or endsheathing Sira, Snayu, Asthi and Sandhi. The tissue fulfilling all the prior said requisites is an irregular connective tissue of dense variety. Hence structurally, Peshi is Dense Irregular Connective Tissue (D.I.C.T.).

REFERENCES

1. Vaidya Yadavji Trikamji Acharya editor. Sushruta Samhita with Nibandhasangraha commentary by Dalhan. Vol-I. 2012 Reprinted. Varanasi: Chaukhamba Orientalia, Sutra sthana.
2. Prof. K. R. Srikantha Murthy editor. Astangasangraha, vol-II, 2012 ed. Varanasi: Chaukhamba Orientalia, Sharir sthana