



Review Article

DIFFERENTIATION OF TERMS Peshi, Mamsa AND Snayu

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Article Received on: 06/07/2019; Accepted on: 27/08/2019.

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ABSTRACT:

There is controversy related with the understanding of terms *peshi* and *snayu*. The experts compare *peshi* with muscles, coverings and fascia. And *snayu* with muscles, ligaments and tendons. In *samhitas*, *peshi* is defined as a structure that separates *mamsa*, *avayava* and *sanghata* from each other. Hence *peshi* points towards the covering and fasciae. It is also stated in *samhitas* that bones are tied with *snayu* and both are covered by *mamsa*. These various references specify that tendons and ligaments are included into *snayu*. And *mamsa lepan* represents muscle bellies.

KEY WORDS: *peshi*, *mamsa*, *snayu*, *avayava*, *lepan karma*

INTRODUCTION:

The musculoskeletal system in human body consist of- bones, muscles, joints, ligaments and tendons for supports and binds tissues and organs together. They are useful for movements, supports, firmness and safety of the body. Considering all these features *peshi*, *mamsa*, *snayu*, *asthi* and *sandhi* are considered under musculoskeletal components in *Ayurveda samhita*. Additionally, some other structures like *jala*, *kurcha* are also considered under this system.

Few controversies are found among the *Ayurveda* experts regarding the confirmation of *peshi* and *snayu* and their correlation with structures described in modern anatomy. Some experts corelate *peshi* with muscles and others corelates it with coverings and fascia. Some experts corelate *snayu* with muscles and others corelates it with ligaments and tendons.

MATERIAL AND METHODS:

Various references regarding *peshi* and *snayu* from ancient *Ayurvedic* texts are studied and applied as basic principles for confirmation of these terms.

The concept of *peshi*

According to *Dalhana* the meaning of the term *peshi* is 'mamsakhanda'.^[1]

Chakrapani has defined *peshi* as a structure like the shape of long *mamsapeshi*.^[2]

Indu has described *peshi* as *mamsamaya* structure having shape of *snayu*.^[3]

However, *Dalhana* has defined *peshi* as a structure that separates *mamsa*, *avayava* and *sanghata* from each other.^[4] This is a very important and meaningful definition by *Dalhana* as it sets aside the dispute.

Susruta has mentioned the feature of *peshi* as a covering of the organs and he has also emphasized that *sira*, *snayu*, *asthiparva* and *sandhi* become strong due to the covering of *peshi* around them.^[5]

In the following figure [1] of transverse section of neck *avayava*, *sira*, *asthi*, *mamsa* etc. are seen to be covered and separated by *peshi*.

Formation of *peshi*.

Vayu accompanied by *ushma* develops *srotas*. Similarly, *vayu* accompanied by *ushma* develops *peshi* differentiating *mamsa*.^[6]

There are overall 500 *peshi* in our body.^[7]

Types of *peshi*

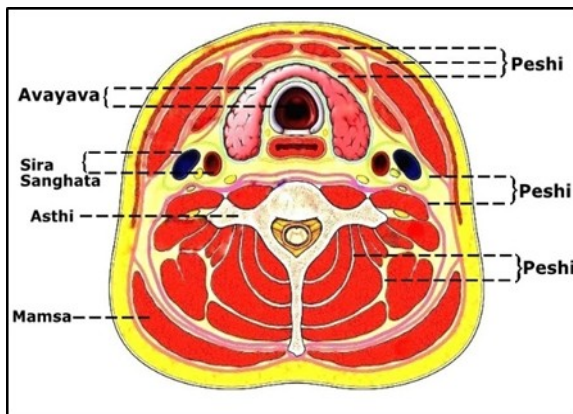


Figure 1: Transverse section of neck *avayava*, *sira*, *asthi*, *mamsa*

Sushrut has also stated that *mamsa* has been tied over bones by *sira* and *snayu*. *mamsa* gives support of bones therefore it never gets destroyed or falls down.^[10]

Here the word *mamsa* is used for a specific structure and it is not representing *dhatu*. In the statement of *Kashyap* the words *asthi*, *snayu*, *sira*, *tvacha* represent the anatomical structures. The word *mamsa* must be an organ and not only *mamsa dhatu*. Therefore, *mamsa* is a thing with distinct and independent existence. This is also stated in the following references-

Mamsa is considered as *pranayatana*.^[11]

Mamsa is root of *medovaha srotas*.^[12]

Bahal, *pelava*, *sthula*, *anu*, *rhaswa*, *dirgha*, *sthira*, *mruda*, *shlakshna* and *karkash* are the types of *peshi*. The shape and type of *peshi* is achieved according to its location in the body.^[8]

The concept of *mamsa* and *snayu*

There is controversy with the term *snayu* also. *Kashyap* has described structure of *snayu* *mamsa* and *asthi*. He says- to build a structure the skeleton of wood is tied by grass and ropes and clay is spread over it. Similarly, human body is also designed. Bones are tied with *snayu* and both are covered by *mamsa*. *Sira* nourishes them and all are covered by skin.^[9]

In the following figure [2] this concept has been represented.

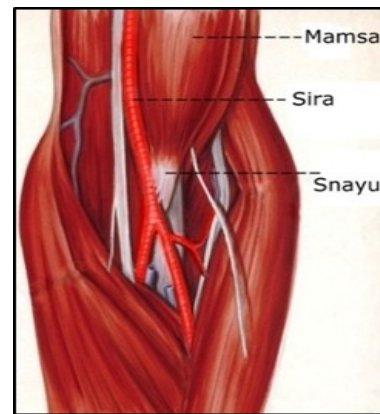


Figure 2: Concept of *mamsa* and *snayu*

Lepana (covering) is the function of *mamsa*.^[13]

Bones can move due to the covering of *mamsa*^[14]

The function of *mamsa* is to produce strength.^[15]

Sushruta has stated that the movements take place due to *snayu*. He has described that movements like *utkshepana*, *apakshepana*, *prasarana*, *akunchana* are taking place due to *snayu*. It has not been made clear that *snayu* are connected with *mamsa*. The description *snayu* are covered by *mamsa* indicates that *snayu* is connected with *mamsa*.^[16]

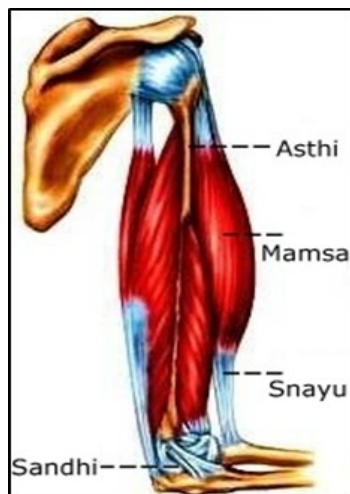


Figure 3 Showing Bones connection at the joint by joint capsule, tendons and ligaments

The figure [3] also indicates that bones are connected with each other at the place of joint by joint capsule, tendons and ligaments.

The location of *snayu*

The conjunction of bones is called joint. *Snayu* and *kandara* are related with the joint.^[17]

Formation of *snayu*-

Together with the *sneha* of *meda sira* is differentiated into *snayu*. *sira* has *mrudu paka* and *snayu* has *khara paka*.^[18]

Types of *snayu*

There are four types of *snayu*- *pratanvat*, *vrutta*, *pruthula* and *sushira*. *Pratanvati snayu* are present in limbs and joints. *Vrutta snayu* are considered as *kandara*. *Sushira snayu* are present at the ends of stomach, large intestine and urinary bladder. *Pruthula snayu* are present at thorax, back and head regions.^[19]

To mark the importance of *snayu*, *Sushrut* says that an injured *snayu* affects the body more severely than the injured *asthi*, *peshi*, *sira* and *sandhi*.^[20]

It is experienced clinically also that the injuries of ligaments and tendons are long lasting.

Mamsa rajju

To bind the fascia, long 4 *mamsa rajju* are present lateral to the vertebral column. These

are two external and two internal.^[21]

Kandara

It is a large and bulky *snayu*. There are total 16 *Kandara* in the body. These are located four each in hand, leg, neck and back.^[22]

OBSERVATIONS AND RESULTS:

The perception of *peshi*

Mamsa, *avayava*, *sira*, *snayu*, *asthiparva* etc. are covered by *peshi* therefore they remain separated from each other and move and work without interfering the organs in vicinity. Various structures and organs like lungs, heart, stomach, intestines etc. work efficiently only because of they have covering of *peshi*. Therefore, it is stated above that these organs remain competent due the covering of *peshi*.

Thus, importance of *peshi* is incontestable. In the dissected cadaver we can observe that each structure is covered by either its own covering or by a common covering.

If we compare *peshi* and *mamsa* it is found that *peshi* not only covers the organs but also separates them. Whereas *mamsa* only spread over the bones externally. In *samhita* also it is not mentioned that movements of the body take place due to *peshi*. It has been specified in ancient text that *peshi* covers and movements are carried out by *snayu*. If we consider *peshi* equal to muscle, an error will be developed that;

samhita has not described covering and fascia. At the same time, it will also be difficult to describe and find meaning of *mamsa*. Therefore, *peshi* should be considered alike to covering and fascia.

The perception of *mamsa* and *snayu*

If we observe thigh of goat in the meat shop it is formed of bunch of muscles. Though there are many muscles in the thigh they are not seen separated. *Mamsa lepan* is actually formed of bunch of muscle belly. According to modern science muscle is composed of centrally placed muscle belly with tendons at the ends. The muscle belly contracts and exerts force of contraction over the tendon and the movement takes place. These tendons usually pull the bones. The movement is taking place due to the contractions of muscle belly and not due to the tendon. The tendon attaches the muscle to the bone.

Each muscle is not provided with the tendons at the end. The muscles are found in bunch. Therefore, it must have become difficult to count them separately. Hence bunch of muscle belly is called *mamsa lepana*. *Aacharya* has not identified muscle with tendon and its belly. Joint capsule ligament tendons are well differentiated and can be identified easily but the total number of *snayu* i.e. 900 has been told for the convenience to the study.

DISCUSSION:

The musculoskeletal system in human body suitable for actions, supports, stability and protection of the body comprises bones, muscles, joints, ligaments and tendons. It supports and binds tissues and organs together. In *Ayurveda samhita* *peshi*, *mamsa*, *snayu*, *asthi* and *sandhi* are described. Moreover, *jala*, *kurcha* are also thought in this system. Due to few gaps in description some kind of confusion occurred regarding the meaning of *peshi*, *mamsa* and *snayu* among the *Ayurveda* experts.

Peshi is correlated with muscles, coverings and fascia. Whereas, *snayu* is correlated with muscles, ligaments and tendons. On the basis of above references quoted in various *samhitas*, *peshi* in the form of covering is responsible for separation among the various structures. Individuality of each structure is very essential for the structures to perform their physiological activities in the form of movement, expansion, contraction, conduction etc. without interfering the activities of other organs in vicinity. *Peshi* is therefore very much essential structure.

From the above references bunch of muscle belly is called *mamsa lepan*. Obviously, tendons and ligaments are to be grouped under the term *snayu*. In the joint movement and stability both have a significant role. Hence this study confirms the nature of *peshi*, *mamsa* and *snayu*.

CONCLUSION:

- [1] *Peshi* is correlated with coverings and fasciae.
- [2] *Mamsa lepan* is correlated with muscle belly.
- [3] *Snayu* is correlated with tendons and ligaments

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Cite this article as:

Dinesh B. Naik, Prashant A. Suru, Differentiation of terms peshi, mamsa and snayu, PDEAS Int. J. R. Ayu. & A. Sc., 2(1); Feb 2020, p. 35-39.