REVIEW PAPER

A Comprehensive Study of "Streenam Tu Vimshatiradhika Peshi" W.S.R. To Its Clinical Relevance

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ABSTRACT
According to classical Ayurvedic texts, Peshi are defined as organized structures of muscle which share an intimate relationship with the Mamsa Dhatu and are considered to provide stability and maintain physiological functions of human body. Several of these descriptions include a singular mention of twenty additional structures situated in the female body (Streenam Tu Vimshatiradhika Peshi) — associated mostly with the breast and reproductive tissues. These features likely have anatomical and clinical relevance, yet similarly to other ancient structures, they have not been studied extensively in the context of modern anatomy.
Purpose: To find the twenty extra Peshi defined in females and investigate their clinical
Methods: A qualitative integrative review was undertaken using major Ayurvedic texts such as Charaka Samhita and Sushruta Samhita, along with their commentaries. Relevant concepts were compared with modern literature from anatomy, histology, embryology, pathology, and gynecology to interpret classical descriptions within a contemporary anatomical context.
Results: The ten Peshi located in the breast area may relate to smooth muscle fibers of the nipple-areolar complex, smooth muscle around lactiferous ducts, and myoepithelial cells for milk ejection. The ten Peshi in the reproductive system have anatomical similarities to the muscular coats of the vagina, myometrium of the uterus, sphincters at the internal os, and smooth muscle of the fallopian tubes for gamete transport. These are of clinical importance in relation to diseases like leiomyoma, adenomyosis, fibromatosis, and leiomyosarcoma. Classical diseases like Mamsa Granthi, Mamsa Arbuda, and Yonivyapad have similar pathological characteristics.
Conclusion: Streenam Tu Vimshatiradhika Peshi encapsulates a profound knowledge of sex topology. Bringing together these classical descriptions with contemporary understanding of musculature adds a layer for scientific interpretation of the knowledge obtained from Ayurveda, aiding integrative understanding breast and gynecological disorders. We suggest further multidisciplinary study using anatomical, radiological and clinical techniques.
Keywords: Ayurveda; Female anatomy; Mamsa Dhatu; Myology; Breast musculature; Reproductive anatomy; Leiomyoma; Integrative medicine.
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INTRODUCTION

Ayurveda, one of the oldest branches of medicine, lays great emphasis on the importance of detailed knowledge of the human body as a foundation for diagnosis, treatment, and prevention of diseases. Sharir Vigyan is considered essential for both Ayurveda and Surgery. Maharshi Atreya has emphasized the importance of anatomical knowledge in maintaining health and treating diseases.

According to Ayurvedic literature, the human body is composed of structural and functional units known as Dosha, Dhatu, and Mala. The seven Dhatus are composed of Mamsa Dhatu, which is related to muscular tissue and is responsible for protection, stability, and locomotion. The anatomical structure of this tissue is known as Peshi. The formation of Peshi is described by Acharya Sushruta as follows:

"Vayu along with Pitta (Usma) is responsible for the formation of Peshi."

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According to Ayurvedic literature, there are around 500 Peshi located in various parts of the human body. Out of these, twenty are unique to females and are not found in males. Ten are located in Stana Pradesh and ten are located in Yoni Pradesh.

Modern anatomy has studied musculature under myology; however, there are no specific references to these structures in modern literature. Nevertheless, the possibility of correlation can be seen with the muscular components of the breast and reproductive organs, which are of clinical importance in the context of the occurrence of fibromyoma, leiomyoma, and adenomyosis. Despite their clinical importance, comparative studies between the classical Ayurvedic literature and the current understanding of human anatomy are scarce.

The present study, therefore, attempts to critically analyze the classical textual data, explore the possibility of correlation, and assess their clinical implications. The attempt to integrate the traditional and scientific understanding would be useful in the context of interdisciplinary understanding of female anatomy and women’s health.

AIM

To determine the twenty additional Peshi found in females and their clinical Importance.

OBJECTIVES

1. Study of Peshi as mentioned in Samhita.
2. Study of muscle according to modern Anatomy.
3. Conceptual study of 20 additional Peshi of females as mentioned in Samhita in view of gross and Clinical Anatomy.
4. To study the additional 20 Peshi found in females with special reference to modern anatomy.
5. To study the function of 20 additional Peshi and its clinical importance with preventive aspects.

REVIEW OF LITERATURES

Ancient Indian literature has shown changes in the concept of human body tissues over time. The concept of muscle tissue, called "Mamsa," has been mentioned in ancient Indian literature, specifically in Vedas and Upanishads, as an essential part of human body structure. Although there are few mentions of "Peshi" in these ancient Indian texts, later Indian literature, including Agni Purana, Garuda Purana, and Yajnavalkya Smriti, have shown increased awareness of muscular structures.

Explanations of "Peshi" have been found in classical Indian Ayurvedic literature. Shabdakalpadruma, Amarakosha, and Vaidhyaka Shabdasindhu are Indian dictionaries in which "Peshi" is described as compact masses of "Mamsa Dhatu." The explanations of "Peshi" are also given in Indian commentaries, including "Dalhana" and "Chakrapani," as muscular structures responsible for supporting and moving the human body.

Acharya Sushruta describes it in most detail and states that it is a result of the action of Vayu and Usma on Mamsa Dhatu. Charaka describes 400 Peshi in the human body, whereas Sushruta and later authors like Vagbhata, Sharangadhara, and Bhavaprakasha describe 500 Peshi in the human body and specifically identify twenty of them in females.

Modern-day scholars like Gananath Sen, Bhaskar Govinda Ghanekar, P.V. Tiwari, and D.G. Thattae have attempted to correlate these additional Peshi with structures like vaginal musculature, various layers of uterine musculature, sphincter structures, ligaments, and fallopian tubes. However, this is all interpretative and not specifically validated due to a lack of detailed morphology in classical literature.

Ayurvedic literature also describes clinical manifestations of disorders of the muscular tissue, like Mamsa Granthi, Mamsarbuda, and various Yonivyapad, which indirectly point to the involvement of Peshi in gynecology.

Despite these references, a critical appraisal of the literature reveals that there is a scarcity of integrative anatomical investigations correlating the concept of the twenty additional Peshi in Ayurvedic medicine with contemporary medical science. Such a lack of information necessitates further investigations to establish their anatomical identity and clinical relevance, thus promoting a better understanding of female anatomy.

Modern Anatomical Review

The current research requires an understanding of specific anatomical structures closely associated with female musculature, including the breast, vagina, uterus, fallopian tubes, and myology.

Myology

Myology is the scientific study of muscles, which are specialized organs composed of muscle fibers, connective tissue, and nervous tissue, which provide locomotion, maintain posture, and produce heat. The muscles are classified into three types based on their structure and function: skeletal, cardiac, and smooth.

Skeletal muscles are derived from mesenchymal somites and are composed of multinucleated and striped muscle fibers, which are arranged in fascicles and are responsible for voluntary movements. Cardiac muscle is derived from splanchnopleuric mesoderm and is composed of branching muscle fibers and intercalated discs, which are responsible for peristalsis. Smooth muscles are derived from mesenchyme and are composed of spindle-shaped and unstriated muscle cells, which are responsible for involuntary movements. It is interesting to note that smooth muscles are predominant in the female reproductive system.

Breast

The mammary gland is a modified sweat gland and is derived from the ectoderm, along with stromal support from mesoderm. From a structural perspective, the breast is composed of glandular lobes surrounded by fibrofatty stroma and ligaments. From a histological perspective, the

presence of myoepithelial cells and smooth muscle fibers is critical for the nipple-areolar complex. The presence of sphincter-like smooth muscle layers is critical for the control of the lactiferous ducts.

Vagina

The vagina is a fibromuscular canal extending from the vestibule to the cervix and is critical for copulation, menstruation, and parturition. From a histological perspective, the vagina is composed of a mucosal layer, a muscular coat composed of inner circular and outer longitudinal smooth muscle fibers, and an adventitious layer. The muscle fasciculi are critical for elasticity and distensibility and are critical for parturition. In addition, the presence of skeletal muscle is critical for the control of the vaginal orifice.

Uterus

The uterus is a thick-walled muscular organ that is derived from the fusion of paramesonephric ducts. The middle part of the uterus is known as myometrium, which is the main part of the uterus. The myometrium is made up of smooth muscles that are arranged in a complex intertwining fashion in a longitudinal, circular, and oblique fashion. This helps in the expansion of the uterus during pregnancy and in contracting to aid in labor. The circular smooth muscles at the internal os are sphincter-like, which helps in retaining the contents of the uterus.

Fallopian Tubes

The fallopian tubes are derived from paramesonephric ducts and are involved in the transport of ova and fertilization. The muscular part of the fallopian tube is made up of smooth muscles in a circular and longitudinal fashion. This helps in peristalsis to transport the ovum to the uterus. The presence of a high amount of circular smooth muscles in the isthmus part of the tube indicates a possible anatomical sphincter.

Clinical Relevance

The smooth muscle structures in these organs often contribute to pathological conditions. For example, in breast tissue, fibromatosis and sarcomas may show myofibroblast proliferation. Vaginal tissue is less likely to show leiomyomas, but in uterine tissue, leiomyomas are the most common smooth muscle cell tumors in women. Their malignant counterparts, like leiomyosarcomas and mixed cell mullerian tumors, show malignant behavior and metastatic potential. Also, adenomyosis shows endometrial tissue invasions into myometrial tissue, thus showing the importance of uterine smooth muscle. Salpingitis and tumor-like lesions in tubal tissue are less common but may involve smooth muscle cell structures.

DISCUSSION

The present research is conducted in accordance with a classical research design as propounded in Ayurveda, where a theory or a concept is tested and proved using a combination of observation and logical reasoning. Such a design is helpful in laying down a cause-effect relationship and is in line with the broader objective of correlating it with contemporary anatomical knowledge. Accordingly, in this section, there is a discussion on interpreting the results regarding Peshi and their distribution in Stana Pradesh and Yoni Pradesh and their clinical relevance.

Discussion on Peshi

Historical Perspective

There is a lack of reference to Peshi in the early Vedic literature, although it is mentioned that Mamsa is the structural covering of the body. This is a preliminary level of knowledge regarding the presence of muscular tissue that provides protection and support to the body. Subsequently, in Agni Purana and Yajnavalkya Smriti, 500 Peshi are mentioned, and it is also acknowledged that there are many other muscles in females, indicating a higher level of sophistication in anatomical knowledge. Peshi is also referred to as fleshy cylindrical structures, which is in accordance with the concept of muscle fibers.

Ayurvedic Perspective

Classical dictionaries define Peshi as compact and elongated masses of Mamsa, with emphasis on their functions of covering, movement, and structural integrity. Dalhana defines Peshi as organized forms of Mamsa, and Arunadatta defines Peshi as thread-like forms, which indicate the fibrous structure of the muscle.

Sushruta defines the development of Peshi as the result of the actions of Vayu and Usma on Mamsa Dhatu, which indicates the process of division and metabolism. This definition of the development of Peshi has similarities with the process of muscle development in the human embryo, which occurs with the division and specialization of the cells. The functions of Peshi, as described in the Ayurvedic literature, include movement, joint stability, and strength, which are the functions of skeletal and smooth muscles. These definitions of Peshi indicate the similarities with the structure and functions of the muscles of the human body.

The classical literature defines the presence of twenty Peshis in the female body, located mainly in the breast and reproductive organs. These Peshis could be related to the smooth muscles, which are located mainly in the female reproductive system.

Distribution of Peshi in Stana Pradesh and Clinical Relevance

According to Ayurvedic experts, ten more Peshi are located in the breasts, though their exact location is not defined. From the histological perspective, there are several muscle components located in the breast, such as smooth muscle located in the nipple, radial and circular muscles located in the areola, and muscles located near the lactiferous ducts. These components are responsible for the erection of the nipples and the ejection of milk, and hence can be identified as Peshi.

Mamsa Granthi and Mamsa Arbuda are the medical conditions associated with the muscular components located in the breast. These conditions are correlated with benign and malignant tumors such as fibromatosis and leiomyosarcoma. Granthi is defined as the nodular growth,

which is associated with benign muscle tumors, whereas Arbuda is associated with malignant muscle tumors.

Distribution of Peshi in Yoni Pradesh and Clinical Relevance

Classical literature refers to ten Peshi in Yoni, which are located in the vaginal canal, uterine passage, and structures that aid in the entry of Shukra and Artava. The interpretative analysis of Peshi reveals that the Sphincter urethrovaginalis represents the outer circular Peshi of the vaginal orifice, and the inner circular and longitudinal smooth muscles represent the internal Peshi.

The three Peshi of Garbhachhidra can be related to the smooth muscular structure of the myometrium, which regulates menstruation and parturition. Similarly, the smooth muscular structure of the fallopian tube may be related to the Peshi that aid in gamete transport and entry into the uterus.

The pathological involvement of Peshi is evident in diseases like Leiomyoma, Adenomyosis, Leiomyosarcoma, and Tubal Inflammatory Diseases. Similarly, Ayurvedic diseases like Mamsa Granthi may be related to benign smooth muscle tumors, whereas Mamsa Arbuda represents malignant smooth muscle tumors. Yonivyapad like Vatiki, Paripluta, Udavartini, and Suchimukhi show clinical features of muscular spasm, hypertonicity, and structural narrowing, which reveals the functional importance of Peshi in Gynecological Pathology.

PREVENTIVE PERSPECTIVE

Prevention is a primary goal of Ayurveda, which focuses on health maintenance by maintaining a balance of Dosha, Dhatu, Mala, and Agni. In this context, maintenance of the additional twenty Peshi in females is largely dependent upon regulation of lifestyle, nutrition, and prevention of diseases. The integration of classical and modern physiological theories would create a comprehensive platform for maintaining female muscular health.

Role of Dinacharya and Ritucharya

Regulations of daily and seasonal practices are highly beneficial for maintaining hormonal, tissue, and metabolic health. Brahma Muhurta awakening is beneficial for regulating circadian rhythms, which is highly beneficial for maintaining muscular health in females. Procedures like Nasya are recommended to influence neuroendocrine pathways, which could be helpful for regulating hormones to maintain muscular strength in female reproductive organs.

Abhyanga (Oil Massage) is highly beneficial for increasing blood circulation, which is highly beneficial for maintaining tissue health by providing adequate oxygen for nourishing Mamsa Dhatu. This procedure is highly effective in reducing muscular stiffness and pain, which is a major problem in dysmenorrhea. This oil massage is highly beneficial for maintaining uterine health after delivery.

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Preventive Measures for Mamsa Granthi and Mamsa Arbuda

Nidana Parivarjana or avoidance of causative factors continues to be of prime importance in prevention. Overindulgence in heavy and oily food items, lack of exercise, inflammatory conditions of the body, and mental states like stress may induce disturbances in Kapha, Meda, and Rakta and may manifest as proliferative diseases. On the other hand, consumption of wholesome food like barley, mudga, and digestive stimulants may help in maintaining healthy metabolism and preventing pathological accumulation in the body.

Immunomodulatory and potential anti-cancer activity of Rasayana drugs like Ashwagandha, Haridra, Guduchi, and Amalaki may be of use in preventing abnormal tissue growth. Shodhana chikilsa like Panchakarma may help in regular removal of accumulated Doshas and preventing channel obstructions like Srotorodha.

Mental states may also play a role in prevention through Satvavajaya techniques like meditation and pranayama.

Regular observation of abnormal nodules or lesions may help in early diagnosis and prevention of progression of Granthi to Arbuda.

Preventive Approach to Yonivyapad

Gynecological disorders that are linked to the additional Peshi can be reduced to a minimum with disciplined practices in life. Avoidance of incompatible diet, poor hygiene, over-exertion, and improper practices in sex life is helpful in maintaining gynecological health. Classical dietary practices, together with formulations such as Lashuna Rasayana, are mentioned to promote vitality, fertility, and stability in gynecology.

Observance of Rajaswala Paricharya is important since menstrual health is a dynamic interaction of Vata, Pitta, and Rakta. Over-exertion of these factors may interfere with menstrual health and lead to Yonivyapad.

Observance of menstrual patterns, abnormal discharges, and discomforts is helpful in diagnosing and treating gynecological problems.

CONCLUSION

The present study has been undertaken with the aim of scientifically evaluating the concept of “Streenam Tu Vimshatiradhika Peshi” and correlating its anatomical and clinical relevance with the principles of modern medical science.

The results indicate that Peshi should not be considered synonymous with Mamsa Dhatu, but organized muscular structures predominantly composed of Mamsa Dhatu. The elongated structure of the muscle fibers supports the view, and Peshi could be considered the functional anatomical equivalents of the muscular tissue.

The classical literature on the presence of twenty more Peshi in females has been critically evaluated and correlated with the existing anatomical structures. The ten Peshi located in the Stana Pradesh could be considered analogous with the smooth muscle of the nipple and areola, smooth muscle fibers around the lactiferous duct, smooth muscle, and ductal smooth muscle, and myoepithelial cells, which play an important role in the erection of the nipple and the ejection of milk.

Likewise, the ten Peshi located in the Yoni Pradesh also show significant anatomical correlation. The outer circular Peshi correlate with the bands of the sphincter urethrovaginalis, whereas the inner Peshi correlate with the muscle layers of the vaginal wall. The three Peshi located in Garbhachhidra correlate with the layered muscle arrangement of the myometrium, which plays a vital role in menstruation and parturition. The Peshi responsible for the entry of Artava and Shukra may correlate with the muscular arrangement of the ovarian fimbria and the smooth muscle of the internal os, respectively. These anatomical correlations suggest that Ayurvedic scholars were aware of the specialized muscular arrangement of the female genital system.

Clinical analysis also revealed significant correlation between classical disease entities and contemporary pathology. Mamsa Granthi is similar to benign muscle tumors such as leiomyoma and fibromatosis. Mamsa Arbuda is similar to malignant conditions such as leiomyosarcoma and mixed Müllerian tumors. Certain conditions such as Vatiki, Paripluta, Udavartini, and Suchimukhi, which are located in the Yonivyapad, also manifest clinical features suggestive of muscular spasm, hypertonicity, and stricture.

From a preventive perspective, Ayurvedic practices like Dinacharya, Rasayana, Nidana Parivarjana, and Rajaswala Paricharya have a crucial role to play in maintaining muscular and reproductive well-being. These practices help in hormonal balancing and nourishment of tissues and cells, which in turn help in preventing diseases. Also, abnormalities can be identified at an early stage and prevented from progressing to malignant diseases.

Thus, it may be concluded that this study has shown that the classical description of twenty additional female Peshi is in consonance with a high level of sophistication in terms of knowledge of female anatomy. Establishing correlations with modern structures not only adds to the scientific acceptability of Ayurvedic knowledge but also offers an integrative approach for the diagnosis and prevention of breast and gynecological disorders.

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