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Unveiling Susruta's Legacy: Ancient Anatomy and the Concept of Sira

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Abstract: Ayurveda provides in-depth knowledge of the human structure and treatments for disorders. The Charaka Samhita, Susruta Samhita, and Vagvat Samhita are three important Ayurvedic writings that offer priceless insight into this subject. The Susruta Samhita serves as a foundational text on human anatomy and contains the oldest documented surgical education. Susruta sheds insight on the differences between sira (nerves), dhamani (blood vessels), and srotas (channels), as well as their functions and interactions. In modern medical study, the elucidation of the classical anatomy related to these aspects is very significant. Neurological advances can be greatly aided by an understanding of the complex interactions among the sira, dhamani, and srotas. The present review aims to highlight this classical anatomy and its relevance to the present-day understanding of the human nervous system. By exploring the insights provided by Ayurvedic texts, we strive to bridge the gap between ancient wisdom and modern medical research. This endeavor has the potential to enhance our comprehension of neurology and potentially lead to new approaches for the prevention and treatment of neurological disorders.

Keywords: Ayurveda, Sira, Dhamani, Srotas, Medical Research

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Introduction

The field of surgery necessitates a thorough understanding of the human body's complicated processes. Susruta, a notable ancient Indian physician, contributed much in respect of anatomical knowledge through his revolutionary work on human corpse dissection and its relationship to circulatory networks. Prior to

Susruta, animal dissections were the primary source of anatomical information. Susruta's detailed observations and documentation of the dissection procedure on human cadavers, on the other hand, constituted an important milestone in the evolution of anatomy in India. His fundamental work in this discipline earned him the moniker

"Father of Anatomy," and the Susruta Samhita is regarded as a definitive text on the study of the human body (Srikantha, 2007; Diederik, 2021).

Susruta's Sarirasthan, a component of his teachings, is recognised by Brahmanand and Gangasahay (1995). However, they acknowledge the challenges of interpreting this part of Susruta's work. In the seventh chapter of the Sarirasthan, titled "Varna Vibhakta Nama Sariram," Susruta digs into the complex aspects of human anatomy. Susruta, in particular, introduces novel conceptual notions about the nature of the physical body (sariram) and the dissectible body (vedhyavidhi sarira) (Ambika, 2004; Yadavaji, 2012, 2014). These ideas are important because they provide different viewpoints on anatomical structures and dissection approaches.

The Susruta Samhita, notably its Sarirasthan, is an excellent resource for the study of human anatomy in the Ayurvedic tradition. Susruta's thorough descriptions of anatomical parts and surgical methods established the groundwork for comprehending the human body's functioning in both health and disease. This ancient literature continues to inspire and drive modern anatomical research, surgical innovations, and medical education, contributing to enhanced surgical procedures, diagnostic accuracy, and overall patient care.

Concept of Sira as per Sushruta:

Acharya Carak defined "Sira" as "Sarnat," which is a term for blood circulation (Sarana Kriya), in the Sutrasthna. Susruta asserts that Sira originates from the Nabhi, which is another name for the pituitary gland, also referred to as the "master gland." This gland has an origin near the base of the brain and branches out to include the entire body (Ruthkow, 1961; Yadavaji, 2012). Sira comes in two varieties: those that promote healing and those that should not be applied during vedhana (Venesection). In humans, there are 700 sira, 602 of which are classified as Vedhya and 98 as Avedhya (Bhishagratna and Kunja, 1907; Raju, 2003; Wujastyk, 2013).

Dhamani and Srotas are terms used by Acharya Charaka to describe the dynamic movement of blood or fluids from one location to another. As stated by Acharya Susruta, commentator Cakrapani described them as an energetic force that naturally suffers instability and changes position, similar to a fish. Understanding anatomy is critical for surgical treatments in modern medical research, and this component is quite important (Monier, 1899; Yadavaji, 2012).

Concept of Sira, Dhamani, and Srotas as per Sushruta:

The word "Sthana" which refers to the nerve, vein, and blood vessel collectively, is employed by Acharya Susruta, whereas the word "dhamani" denotes the artery. Furthermore, in contemporary medical science, the term "Srotas" is used to refer to lymphocytes and capillaries, which symbolize the ephemeral flow. Dhamani and srotas, which Susruta identified as being a part of the pituitary gland, also known as the master gland, were classed by Susruta as belonging to it. He used the word "Nabhiprabhava". The origin and termination of these components in the embryonic life cycle are situated in the navel area (Nabhi), which Susruta explained as the reason for this nomenclature (Srikantha, 2007; Thatte, 2007).

Structural configuration:

The knowledge of vascular anatomy is in agreement with modern anatomy. From the heart, large arteries emerge and divide into smaller arteries that nourish different parts of the body. Arterioles, which are even smaller vessels that enter the body's tissues, are formed when these arteries are further divided. Arterioles develop into a network of capillaries within the tissues. Materials are transported into and out of the cells by way of the walls of capillaries, where they are exchanged between the blood and the cells. Capillaries become venules, which are tiny veins that emerge from the tissues. The venules subsequently connect to generate larger and larger veins that return blood to the heart. It is

worth mentioning that the vessel walls of veins, capillaries, and arteries differ in composition. These blood vessels surround a hollow centre through which blood flows (Persaud, 1997; Chaurasia, 2000; Thatte, 2007). The Vedas have references to the anatomical layout of Sira, with the Atharva Veda describing multiple Siras. These Siras are said to be coppery red in colour and to be carrying Ashuddha Rakta, which indicates deoxygenated blood. They are similar to the venous system seen in the human body. Sira is referred to in our classical writings using a variety of synonyms and terminology (Monier, 1899; Raju, 2003).

Various Acharyas have used different synonyms to describe the characteristics of Sira. These synonyms imply that Sira has a tubular composition similar to Nadi, with some holes similar to Strotasa. It also contains blood like Dhamani and has the same origin as Snayu. Furthermore, some Siras are noted as having exceedingly fine natures. A complete grasp of Sira's features can be gained through the cumulative descriptions offered by many Acharyas.

Conclusion

In conclusion, Acharya Susruta's contributions to the study of anatomy have greatly improved our comprehension of the human body. He cleared the way for a deeper understanding of anatomical structures and their functions through his revolutionary work on human cadaver dissection. In the Ayurvedic tradition, the Sarira Sthan of the Susruta Samhita is still an important source for learning about human anatomy. Susruta's explanation of the ideas of Sira, Dhamani, and Strotas sheds light on the dynamic flow of bodily fluids, including lymphatic and blood circulation. These ideas are consistent with current anatomical understanding and will continue to have an impact on surgical procedures and medical instruction.

Overall, Susruta's teachings and other historical books continue to inspire and educate

modern anatomical research, surgical advances, and medical education with their expertise and insights. We may improve surgical techniques, increase the precision of diagnostic tests, and ultimately improve patient care by building on the foundations laid down by these great experts. In the quest for medical knowledge and the practise of surgery, Susruta and his colleagues advocated a comprehensive approach to comprehending the human body.

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