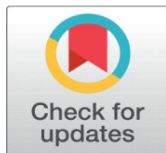


RECENT RESEARCH ADVANCES IN RACHANA SHARIR ON THE CONCEPT OF NABHI AND ITS RELATION WITH MODERN ANATOMY

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ABSTRACT

Ayurveda is an elaborate and detailed science; it offers deep insight into the significance of each body part. Together with other structures, *Nabhi* is one of the most crucial components. At the very beginning of life, even at the embryonic level, the *Nabhi* performs the most significant function in the development of the body. According to *Ayurveda*, the origin of the *Siras* that exist between *Pakvashaya* and *Amashaya* is *Nabhi*. These *Siras* act as channels for nutrition and as showers of nourishment in various areas of our bodies. *Nabhi* is an important structure in the body and the center of all of the body's organs, according to various Ayurvedic *Acharyas*. Nonetheless, it is regarded as *Koshthanga*, *Marma*, *Sira*, *Dhamani* and *Prabhava Sthana*, among many other names. It is a site of various treatments which makes it worth considering its anatomical concepts and applied aspects. According to both contemporary studies and *Nabhi*'s literary analysis, it is interpreted as the *umbilicus* but practically it does not make sense to stick with this interpretation. The object of the present study is to trace the most significant and valuable hidden treasure of *Rachana Sharir* and its relation to modern anatomy. In this, a paper attempt has been made to connect references about *Nabhi* from *Rachana Sharir*, the concept of *Nabhi* has been connected to modern anatomy through logical analysis of these references.

Keywords: Ayurveda, Nabhi, Marma, Kosthanga, Umbilicus

1. INTRODUCTION

To show the importance of the study of *Rachana Sharir*, Acharya Sushruta has highly quoted that no one can become a good physician without having proper theoretical and practical knowledge of the anatomy of the human body (*Rachana Sharir*). So, to become good physician the knowledge of *Rachana Sharir* is very important to accomplish the successful *Chikitsa*. A morphological feature of the anatomy is identified and after identification, it is used as a reference point for other

body organs and that is termed as anatomical landmarks [Anatomic Landmark. \(n.d.\)](#) These anatomical landmarks mainly identify specific structures or positions. In Ayurveda, Nabhi Sharir is one such unexplored anatomical landmark which is widely used. In Classical text, many references are available regarding Nabhi Sharir which is available in scattered form. Nabhi is Agni Sthana or Jyoti Sthana. This is where Samana Vayu (the Prana or life force energy that supports digestion, formation, and elimination of urine) and Pachak Pitta (digester fire) reside. In contrast to other medical sciences *Ayurveda*, the science of life, has prioritised the preventive aspect of health first before turning to the therapeutic one. *Sharir's* information is dispersed throughout the *Samhitas* and cannot be found in discrete forms like current anatomy. These factors naturally inspire interest in learning more about *Nabhi* and connecting it to contemporary anatomy. In *Ayurveda*, the word "*Nabhi*" refers to the navel, which is the centre of the body. [Trikamji \(2010\)](#) Nabhi is a body part that is precious and ought to be handled with care. The apana vata, which is in charge of downward elimination, has its seat there. It is an indication of how the digestive system is doing. It should be massaged often to encourage health and strength because it is a source of prana. Ayurvedic medicine assigns symbolic value to the navel in addition to its physiological relevance. It is interpreted as a picture of the relationship that exists between the self and the cosmos. Similar to how the navel connects a fetus to its mother, it also serves as a point of connection between each human soul and cosmic energy.

1.1. NABHI SHARIR EXPLAINED IN CLASSICAL TEXTS

The positional and directional landmarks related to the Nabhi

- Location of Amashaya In between Nabhi and Stana Pradesh.
- The position of Grahani is just above the Nabhi
- Location of Pakwashaya below the Nabhi and above the Shroni and Guda
- Agnyashaya is located above and to the left side of Nabhi.
- Basti is situated in the midst of Nabhi, Prishtha, Kati, Mushka, Guda, Vankshanand Shephasa

Acharya Sushruta listed *Nabhi* among the fifteen different *Koshthangas*. [Trikamji \(2008\)](#) The *Sushruta Samhita* highlights *Nabhi* as *Sira's* [Trikamji \(2010\)](#) and *Dhamani's* [Trikamji \(2010\)](#) origin. *Nabhi* is anatomically described by *Acharya Sushruta* in *Sharirasthana* as a centre for reticulation like the spokes of a wheel. [Trikamji \(2010\)](#)

1.2. NABHI AS MARMA

Nabhi Marma is one among 107 *Marma* explained by *Acharya Charaka*. Injury to this leads to immediate death or death within 7 days. [Trikamji \(2017\)](#) This *Marma* is one's own palm size in area 4 *Angula*. [Trikamji \(2017\)](#) Structurally, it is a *sira marma* [Srikanta Murthy & Khanda \(1984\)](#). The vascular structures falling under the umbilical region are the abdominal aorta, inferior vena cava, superior mesenteric artery with branches, and anastomosis between the superior epigastric and inferior epigastric artery. They are structurally and clinically vulnerable.

The scattered references to *Nabhi* that can be found in classical Ayurvedic writings do not support any interpretation. The *Sushruta Samhita* highlights *Nabhi* as *Sira's* and *Dhamani's* origin. In that location, we were unable to locate any such vessels. *Nabhi* is anatomically described by *Acharya Sushruta* in *Sharirasthana* as a

center for reticulation like the spokes of a wheel. Likewise, the correlation between Nabhi and Navel doesn't seem to fit. So, we need to determine the word "Nabhi's" ideal, distinct, and clear meaning. The study should begin by learning the word's etymology, definition, current usage, and the extent to which various aspects of the word are applicable.

- **Etymology:**

Origin of *Nabhi*

The word "*Nah-Bandhe*" is the source of the phrase. [Amarsinh & Shashtri \(2012\)](#) In the same way as a wheel's spokes are kept at the nave, it signifies to bind or tie to the center.

- **Definition:**

Nabhi is a medium that binds or connects various available body structural components. [Shabdakalpadrum et al. \(2002\)](#) Between *Amashaya* (the substrate for undigested food) and *Pakvashaya* (the substratum for digested food) is where *Nabhi* is located. [Trikamji \(2010\)](#)

2. MATERIALS AND METHODS

The current study is based on data gathered from both classical texts of *Ayurveda* and modern books, national and international journals, magazines, conferences, and online resources. Important information will be sought in order to approach the study's aims scientifically.

3. DISCUSSION

The majority of the key principles or technical terminology was not understood by *Ayurveda* scholars due to the methodology of the current healthcare system's blind persuasion to interpret any word or concept of *Ayurveda*. So, for many centuries, not only newcomers but also scholars of *Ayurveda* struggled to understand the precise and comprehensive nature of any terms used in science. *Ayurvedic* literature contains a sporadic description of *Nabhi* but owing to a lack of correlative interpretation and application of *Nabhi* with the most recent modern parameters, Ayurvedists lack confirmatory knowledge and the ability to apply the notion of *Nabhi*. The classical ancient system of *Ayurveda* must be presented and understood in terms of current knowledge for international debate in the age of digital technology. In this paper, we have tried to touch on *Nabhi's* entire aspect through a variety of allusions to old *Ayurvedic* writings. The navel is a fascinating part of the body, with a rich history and symbolism in both *Ayurveda* and modern medicine. While their perspectives differ, both traditions recognize its importance for maintaining health. By understanding the navel's role in both systems, we can appreciate the interconnectedness of body, mind, and spirit.

Nabhi Relation to a Modern Anatomy		
Feature	Ayurveda	Modern Anatomy
Location	Central point of the abdomen, where the umbilical cord once attached	Mark on the abdomen where the umbilical cord was attached.
Importance	Considered the center of the body, vital for energy flow and physical and emotional well-being	Interconnects the digestive system to the circulatory system
Ayurvedic functions	Absorption of nutrients, transportation of life force	No direct physiological functions

	(prana), and maintenance of overall health	
Modern functions	Provides an entry point for the umbilical cord, allowing for the exchange of nutrients and waste between the mother and fetus	No direct physiological functions
Treatment	Massage, oil therapy, and other practices to stimulate energy flow and promote health	Surgery to repair umbilical hernias, and medical procedures to access the abdominal cavity

- **Nabhi as a Navel**

Nabhi is regarded as the body's gravitational centre. The movement of the foetus throughout pregnancy happens through this centre. *Grahani* is located on *Nabhi*, while *Pakvashaya* is on its lower side [Srikanta Murthy & Khanda \(1984\)](#). These locations of various organs are generally described using *Nabhi* as a superficial regional landmark. *Amashaya* is located between *Nabhi* and *Stana*. [Trikamji \(2008\)](#) Throughout antiquity, nabhi has been associated with youth and beauty. The Nabhi's appearance conveys the essence of the individual. During the fetal stage, Nabhi Nadi plays a crucial role in the development of the fetus and the Garbhaposhana. All of the nutrients are transferred between the mother and the fetus through this Nabhi-Nadi. It clarifies the meaning of Garbha Matru Paratantrata and Garbha Poshana. The fetus grows and develops through the Garbha Nabhi Nadi, which acts as a channel for the additional Rasas that are created within the mother's body. Primarily significant in anatomy, physiology, pathology, embryology, and medicine, particularly in Ayurveda, are Nabhi and Nabhi Nadi [Sharma et al. \(2021\)](#).

Figure 1

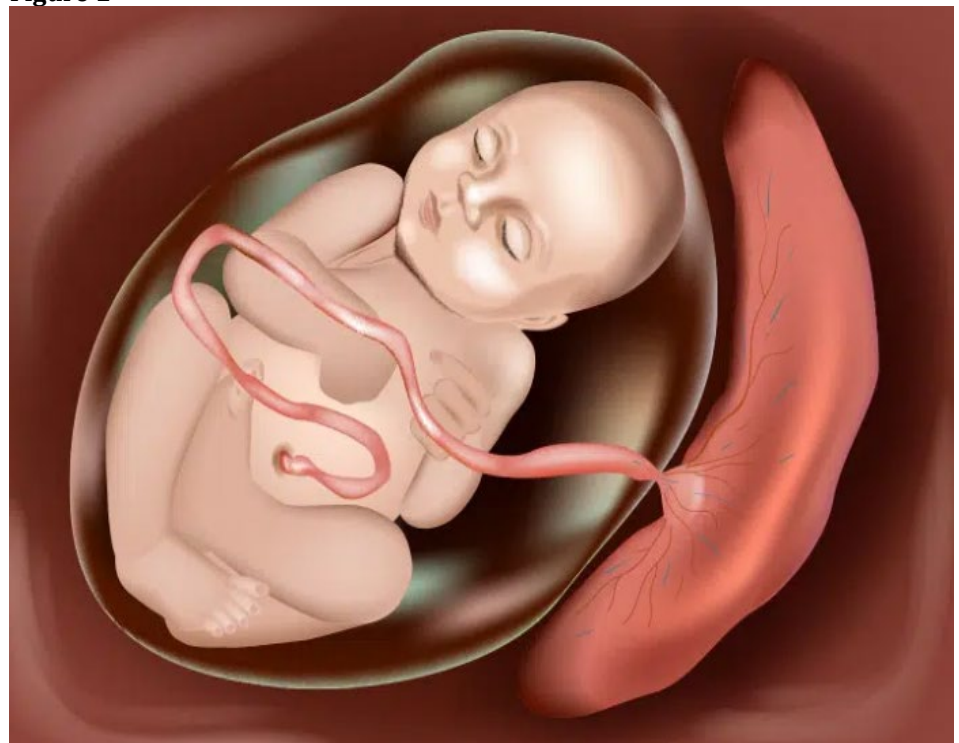


Figure 1 Garbha NabhiNadi

Source <https://neurocyte.in/umbilical-cord/>

Dense fibrous tissue makes up *Nabhi*. It moves around in space. It is located on the anterior median line between the L3 and L4 vertebrae in healthy people, infants and people with pendulous abdomens have lower levels. *Nabhi* is positioned in between xiphoid process and pubic symphysis. [Thomas & Kulkarni \(2014\)](#) The umbilical cord is a cord that connects the fetus's navel to the mother's placenta on the opposite side (*Nabhinadi*). As a result, *Nabhi* is referred to as the *Dharani* or foundation. In truth, the umbilicus serves as both the basis of the body and the means by which the fetus survives while in the womb. *Acharya Charaka* stated that a fetus with a right-curve Navel will have an elongated life while describing the indicators suggesting the elongated life of a foetus. [Trikamji \(2008\)](#) According to the traditional descriptions, it is unclear if *Nabhi*'s significance as a vital spot (*Marma*) refers to its length, breadth, or depth. The 4 *Angula* circumference and depth around the umbilicus have increased significance, as seen in the cadaveric dissection. [Trikamji \(2010\)](#)

- ***Nabhi* as a center of arterioles and venules - capillary**

Figure 2

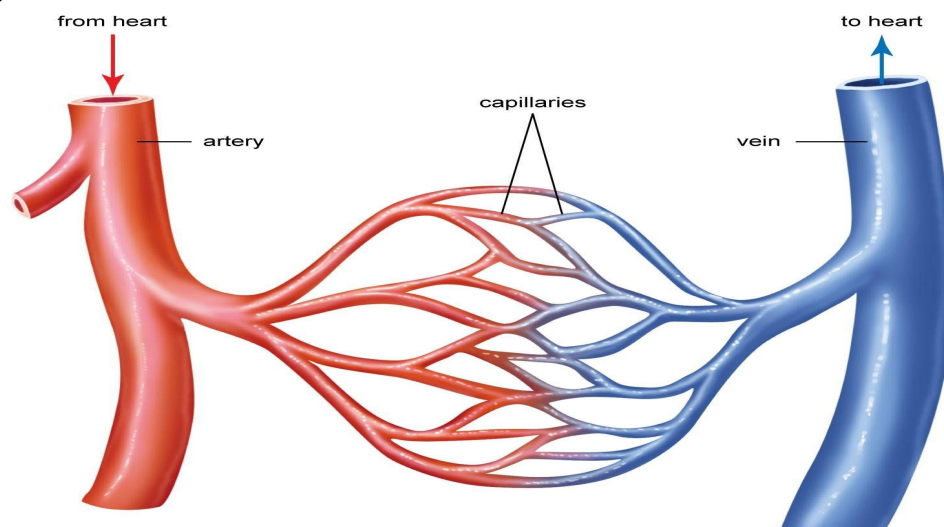


Figure 2 Capillaries

According to *Acharya Sushruta*, *Dhamani* and *Sira*, both originated in *Nabhi*. In our body, there are 700 *Sira* [Trikamji \(2010\)](#) and 24 *Dhamani*. [Trikamji \(2010\)](#) They move in three directions—upward, downward, and transverse- and originate from the *Nabhi*. Those types of vessels are not present in the umbilicus during cadaveric dissection. Hence, based on the description of the aforementioned stanzas through *Nabhi*, it is reasonable to believe that this is the medium that joins the two boats, *Sira* and *Dhamani*. Capillaries connect the reticular structures of venules and arterioles in the early stages of pregnancy, which fits better with the instances given by *Acharya Sushruta*. The narrowest blood vessel in the body is called a capillary. They are barely one cell thick, and their function is to allow the blood and surrounding tissues to exchange oxygen and other nutrients. They also gather carbon dioxide waste products and fluids for return to the veins. *Nabhi* is included among the fifteen different varieties of *Kosthangas* in the *Charaka Samhita*. One type of medium or gateway to convert a foreign body into biologically compatible material is the *Koshtha*. The navel or umbilicus does not carry out these types of functions, but capillaries can, since they deliver oxygen-rich blood to the appropriate cells and collect deoxygenated blood before passing it to venules.

Through the use of capillary energy, the providing and collecting materials are transformed into the end products during this process. [Blood Capillaries \(2017\)](#) For this reason, *Ashtanga Hridaya Sutrasthana* refers to the Nabhi as a Pitta-dominant location. [Trikamji \(2008\)](#) According to the seventh chapter of *Sushruta Sharirastana*, Nabhi is home to twelve different varieties of an organism's *prana* (vital energy). [Paradkar \(2000\)](#) Any type of injury to Nabhi, one of the *Sira Marma*, could cause the individual to die suddenly. Accepting Nabhi as capillaries makes it simple to understand why *Rakta* is stated as one of the *Pranas* and bleeding from an organism's plexus might interfere with the functionality of many mechanisms.

4. PHYSIOLOGICAL POINT OF VIEW

Nabhi being a center of Agni; or a dominant place of Pitta with the help of Samana Vayu located at Nabhi performs the process of digestion through Grahana (consumption/selection), Pachana (conversion), Vivechana (separation) and Munchana (give up for coming stage). [Paradkar \(2000\)](#) Acharya Sharangdhara has described beautifully the normal physiology of respiration but by accepting Nabhi as umbilicus it seems delicate to get the practical connection of the procedure mentioned in it. Nabhistha Prana means deoxygenated blood available in capillaries; converted into oxygenated blood after connecting through Hrat Kamalantaram means lungs. [Srikanta Murthy & Khanda \(1984\)](#) Same way; the mode of action of Basti described in the description of Basti would be understood by Vaidya by accepting Nabhi as capillaries. By entering and slicking into the central part, enclosing part and side part of Kukshi; Basti expels out the vitiated Doshas and Malas outside the body. [Trikamji \(2008\)](#) Capillaries available at small and large bowel absorb the treated oil painting or decoction on administration of Basti and that's the reason behind the efficacy of Basti is observed each over the body.

5. PATHOLOGICAL POINT OF VIEW

Samana Vayu is located at Svedavahi (Mala carrier), Doshavahi (bio-energies carrier) and Ambuvahi (nutrient carrier) Srotas which are substantially related with the process of digestion carried out in all over body. [Trikamji \(2008\)](#) In Udararoga; due to inhibition of the below Srotas which chiefly dealt with capillaries Vata Dosh provokes and vitiates Agni; hence, Agni positioned in capillaries cannot perform its Grahana, Pachana, Vivechana and Munchana Karma correctly and that's the reason to increase the permeability of capillaries and exudation of fluid from them. [Trikamji \(2008\)](#) In Jatodak Avastha of Jalodara (ascites) accumulation of fluid in the peritoneum occurs due to the Parivritta Nabhi. [Trikamji \(2010\)](#) Parivritta Nabhi indicates the angiogenesis of capillaries or due to adding the permeability of capillaries oozing free fluid from them. In Sotha(oedema) also involvement of Nabhi can be assumed due to adding the permeability of capillariesintra-cellular fluid oozes from them. Vak, Urja, Prayatna, Bala and Varna. Karmas are substantially related to the conversion of implicit energy into kinetic energy through capillaries which is carried out by Udana Vayu with the help of Koshtha. [Trikamji \(2008\)](#) Hence, Nabhi is indicated as one of the places of Udana Vayu.

6. RESULTS

When interpreting any word, one must consider its *Shabdhartha*, *Gudhartha*, and *Bhavartha* within the context of that stanza. *Shabdarth* means the literal meaning of a word, *Bhavarth* means the figurative and contextual meaning, and *Gudharth* refers to a word's deeper and philosophical meaning. The reticular bed formed by

capillaries should also be recognized as a *Nabhi*, as the navel alone does not adequately depict a *Nabhi*. Additionally, the *Bhavartha* of the term "*Nabhi*" as the centre of any physiological activity appears to be the more authentic part of it, based on the descriptions given by the writers of the traditional Ayurvedic literature. In summary, there are three related meanings associated with the word "*Nabhi*": in *Shabdārtha*, it refers to a *navel*; in *Gudhārtha*, it refers to capillaries; and in *Bhavartha*, it refers to the centre of all physiological functions.

CONFLICT OF INTERESTS

None.

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