



Review Article

AN EXPLORATION OF NABHI AS AN ANATOMICAL LANDMARK IN AYURVEDA

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ABSTRACT

Ayurveda is a scientific text which covers all aspects of *Rachana Sharir* and *Kriya Sharir*. This *Sharir* is now-a-days modernized as Anatomy and Physiology. To understand anatomy the primary knowledge of anatomical landmarks is essential. Reference points located by visual inspection, palpation, or computer assistance are useful in localizing structures on or within the human body are called anatomical landmarks. These are frequently used by anatomists and clinicians to guide both diagnosis and treatment. In Ayurveda, the concept of anatomical landmark is already present but in scattered manner. The concept of *Nabhi* in Ayurveda is many folded concept which needs more exploration. It can be considered as *Koshthanga*, as *Marma*, as *Sira* and *Dhamani Prabhava Sthana*, as an anatomical landmark and many more. In this paper an attempt has been made to collect references related to *Nabhi* from various *Samhitas* indicating it as an anatomical landmark and by analyzing these references logically, the concept of *Nabhi* as an important landmark has been established and reconstructed in accordance with modern anatomical landmark categories.

KEYWORDS: Anatomy, Anatomical landmarks, Ayurveda, Nabhi.

INTRODUCTION

Ayurveda is a scientific text which covers all the aspects of treatment modalities and being an ancient science definitely have knowledge about *Sharir* which are now-a-days modernized as anatomy and physiology. The knowledge of *Sharir* aspect is very much important to accomplish the successful *Chikitsa* aspect. A morphologic feature of the anatomy is readily recognizable and may be used as a reference point for other body features and is termed as anatomical landmark.^[1] It serves to indicate a specific structure or position. When describing the position of anatomical structures, structures may be described according to the anatomical landmark they are near. These landmarks may include structures, such as the umbilicus or sternum, or anatomical lines, such as the midclavicular line from the centre of the clavicle.^[3]

In Ayurveda, *Nabhi* is one such structure that has been widely used as an important anatomical landmark. The references that are supporting this anatomical landmark aspect of *Nabhi* are widely spread in *Samhitas*. In this paper an effort is given to collect all those references and aspects where *Nabhi* serves to be an Anatomical landmark along with its

justification with respect to modern criteria of anatomical landmark.

AIM AND OBJECTIVE: To explore the concept of *Nabhi* as an anatomical landmark in our *Samhitas*.

MATERIAL AND METHOD

- Reviewing of classics of Ayurveda including relevant commentaries regarding the concept of *Nabhi* as an anatomical landmark.
- Review of all available literature related to modern Anatomy.
- Reviewing of internet materials, journals, periodicals and previous research papers related to this subject.

Ayurveda Review

The term *Nabhi* has been used in different contexts related to anatomical aspect in classics of Ayurveda. One of the important aspects used in *Rachana Sharir* is that of an anatomical landmark. *Acharya Charak* has described the position of *Amashaya* that it is located between *Nabhi* and *Stana Pradesha*.^[4] In context of position of *Grahani*, it has been stated that *Grahani* is located above *Nabhi*.^[5] *Acharya Sushruta* stated that *Nabhi* is situated between *Pakwashaya* and *Amashaya*.^[6] It is also

mentioned that *Pakwashaya* is located below the *Nabhi* and above the *Shroni* and *Guda*.^[7] In context of *Basti* positioning, it is mentioned that *Basti* is situated in the midst of *Nabhi*, *Prishtha*, *Kati*, *Mushka*, *Guda*, *Vankshan* and *Shephasa*.^[8] *Acharya Sharangdhar* has stated that *Agniyashaya* is situated above and to the left side of *Nabhi*.^[9] In context of *Baddhgudodar*, it has been stated that there is abdominal distension in part that lies between Heart and *Nabhi*.^[10] In differential diagnosis of *Vidraddhi* (Abscess), in context of the pathway for abscess to rupture and ooze out it has been mentioned that the abscess which are located above the level of *Nabhi* oozes out from upper openings like mouth, nasal opening.^[11] In case of *Baddhgudodar*, *Acharya Sushruta* has mentioned that to the left side of *Nabhi* leaving 4 *Angula* space one should give incision for laparotomy.^[12] In treatment plan of *Gulma*, *Acharya Charak* indicates *Snehpaan* especially in those *Gulma* which are located above *Nabhi*.^[13] In *Charak Siddhi Sthan*, in context of *Basti* being *Sarvadoshanashak* it is stated that *Basti* performs the properties of all *Panchkarma* when the contents of *Basti* do not come above the *Nabhi*.^[14] In *Ashtang hrudaya* it is mentioned that in *Amashayakupit Vaat*, diseases of regions above *Nabhi* occurs, like *Vamana*, *Shwasa*, *Kaas*, *Kanthuprodh* etc.^[15] In *Sushrut Samhita*, the dimensions of various parts of body are mentioned keeping *Nabhi* as a landmark. The dimensions from *Shishn* to *Nabhi* and from *Nabhi* to *Hrudaya* are 12 *Angula*.^[16] *Acharya Sushruta* mentioned that if in *Uttarbasti*, the medicines administered does not comes out, then the physician should press the abdomen below *Nabhi* with force by clenched fist.^[17] In context of *Parisravyaudara*, it has been mentioned that the region of abdomen below the *Nabhi* becomes enlarged and it give rise to severe pricking abdominal pain and burning sensation.^[18] *Acharya Charak* has demarcated the treatment plan in *Vataja Gulma* on basis of *Nabhi*. He mentioned that *Snehpaan* is indicated in *Gulma*, especially if disease is occurring in region above *Nabhi*. If *Gulma* is manifested in region of *Pakwashaya*, then *Basti* is the treatment of choice. If *Gulma* is located in *Jathar* (*Nabhi* or on either side of abdomen at the level of *Nabhi*) then both *Snehpaan* and *Basti* have to be administered as its treatment plan.^[19] *Acharya Charak* mentioned *Nabhi* as one of the site where pressure should be applied after giving medicines to induce *Vamana*.^[20] The *Nabhinadi* should be marked at a distance of eight *Angula* (approx. 25.5cm), from its root of the *Nabhi*. On both sides of this mark, put the clamps and after careful handling, cut the *Nabhinadi* with the help of an *Ardhadhara Shastra*.^[21] While describing the treatment plan of *Udara Roga*, *Acharya Charak* has described that if fluid accumulation occurs in all

types of *Udara Roga*, then physician should tap in the left side of the abdomen below the *Nabhi* with help of Trocar and cannula.^[22] In context of incision site mentioned in *Parisraviudar* and *Baddhgudodara* it is mentioned that an incision should be given four *Angula* below the *Nabhi*.^[23] In the process of *Ashmari Chedana* the area of the abdomen below the *Nabhi* of patient is advisable for massage.^[24]

Modern Anatomical Review

An anatomical landmark is defined by MeSH as "Reference points located by visual inspection, palpation, or computer assistance that are useful in localizing structures on or within the human body". There are certain landmarks divided into two categories viz. anterior body landmarks and Posterior body landmarks. Anterior body landmarks include Abdominal, Acromial, Antecubital, Axillary, Brachial, Buccal, Carpal, Cervical, Coxal, Crural, Digital, Femoral, Fibular, Inguinal, Nasal, Oral, Orbital, Patellar, Pelvic, Pubic, Sternal, Tarsal, Thoracic, Umbilical landmarks. Posterior Body Landmarks are- Calcaneal, Cephalic, Deltoid, Femoral, Gluteal, Lumbar, Occipital, Olecranal, Popliteal, Scapular, Sural, Vertebral, Plantar.^[25]

Secondly, anatomical landmarks are represented by directional terms to exactly explain the relation of one body structure with another. It is more precise locator. Directional terms are superior, inferior, anterior, posterior, medial, lateral, intermediate, proximal, distal, superficial and deep.^[25]

Umbilicus locates in the linea alba at the highest level of the iliac crest, the position of which is higher than the anterior superior iliac spine by 4 to 9 cm depending on the age or the height of the body. The umbilical position is also an important landmark to indicate intramuscular vasculature of the rectus abdominis muscle, dominant perforators of the deep inferior epigastric artery, and the dermatome of the 10th thoracic nerve.^[26] Many vertebral levels are associated with key anatomical landmarks. Umbilicus is at the vertebral level of L3.^[27] The umbilicus has traditionally been described as a surface landmark for the bifurcation of the abdominal aorta.^[28]

DISCUSSION

After reviewing the *Samhitas*, we came across many references related to *Nabhi* that serves as anatomical landmarks. These references coincide with positional, directional, diagnostic or therapeutic landmarks. Their demarcation can be shown under following sub-headings.

The positional and directional landmark related to Nabhi includes

- Location of *Amashaya* in between *Nabhi* and *Stana Pradesh*.
- Position of *Grahani* just above the *Nabhi*.
- Situation of *Nabhi* in between *Amashaya* and *Pakwashaya*.
- Location of *Pakwashaya* below the *Nabhi* and above the *Shroni* and *Guda*.
- *Basti* is situated in the midst of *Nabhi*, *Prishtha*, *Kati*, *Mushka*, *Guda*, *Vankshan* and *Shephasa*.
- *Agniyashaya* is situated above and to the left side of *Nabhi*.
- The dimension from *Shishn* to *Nabhi* and from *Nabhi* to *Hrudaya* is 12 *Angula*.
- To cut the *Nabhinadi*, it should be marked at a distance of eight *Angula* (approx. 25.5cm), from its root of the *Nabhi*.

From the above detailing we got to know that *Nabhi* is an anatomical landmark that broadly lies in between *Stana Pradesh* and *Pakwashaya* and more precisely in between *Amashaya* and *Pakwashaya*. Moreover, *Nabhi* lies in close proximity to digestive and excretory system. Heart lies at the level of T5 to T9 and Pubic symphysis, which is just above the penis, lies at the level of tip of coccyx. *Nabhi* lies between T5 and tip of coccyx. In newborn, *Nabhi* acts as surface landmark point to measure the distance from where *Nabhinadi* should be cut.

The diagnostical landmarks related to Nabhi include

- For the diagnosis of *Baddhgudodar*, abdominal distension should be between *Hrudaya* and *Nabhi*.
- For the diagnosis of *Parisravyaudara*, abdominal distension occurs below the level of *Nabhi*.
- In differential diagnosis of *Vidraddhi*, those situated above *Nabhi* ruptures and oozes from upper openings like mouth, nose.
- If disease of regions above *Nabhi* occurs then one can diagnose *Amashayakupita Vata* easily.

From above details we got to know that many diseases can be diagnosed in relation to *Nabhi* as landmark.

The Therapeutic landmarks related to Nabhi include

➤ From Surgical point of view:

- Surgical incision site of *Parisravyaudar* and *Baddhgudodar*.
- Fluid tapping site by Trochar and canula in *Udara Roga*.
- Site of *Ashmari Chhedan*.

➤ From treatment point of view

- To confirm the treatment of *Vataja Gulma*—whether it can be *Snehpaan*, *Basti* or both.
- One of the criteria of accurate *Basti* procedure is that the contents of *Basti* should not reach above *Nabhi* to give its desired effect.
- The process of *Vamana* can be induced by pressing *Nabhi*.
- In *Uttara Basti*, if a drug administered does not return back then pressure has to be applied below *Nabhi*.

Thus, in diseases related to *Nabhi*, the differential diagnosis and proper treatment can only be plan out if the knowledge of location of *Nabhi* is determined.

CONCLUSION

Ayurveda is a scientific text which covers all the aspects of modern Anatomy. References collected from *Samhitas* suggest that Ayurveda classics cover the knowledge of all the aspects of Modern Anatomical Landmark. *Nabhi* is one of the important anatomical landmarks which is frequently used by Anatomists and clinicians to guide both diagnosis and treatment since ages.

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Cite this article as:

Rashi Sharma, Sunil Kumar, Saurabh Jain. An Exploration of Nabhi as an Anatomical Landmark in Ayurveda. International Journal of Ayurveda and Pharma Research. 2021;9(5):84-87.

Source of support: Nil, Conflict of interest: None Declared

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