

A STUDY OF SHALYATANTREEYA SHARIR (SURGICAL ANATOMY) IN REFERENCE TO GUDA PRADESH

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ABSTRACT

Medical science changes day by day its past knowledge of diseases and other aspects of human body with the help of inventing new techniques and modules. But the basic concepts of *Ayurveda* are unchanged and trustworthy for maintaining health and cure of diseases since years and decades. They are found useful and accurate on modern parameters during researches. Similar facts have been found in present work during observation and research the anorectal diseases explained in modern literature vis. a vis. *Ayurvedic* literature on clinical ground. Considering the prevalence and development of diseases of *Gudapradesh* (anorectal disorders) in present scenario, the advancement of treatment of these diseases can be achieved only by the understanding and correlating of ancient knowledge with present modern knowledge on practical and experimental ground. This study aims to study understanding the *sharirrachanavigyan* of a particular region of human body on the basis of surgical aspects. In this work, the *shalyatantreeyagyan* of *Gudapradesh* will be explored on the basis of observation of *Ksharsutriyakarma* taking place in different diseases as *Arsha*, *Bhagandara*, Pilonidal sinus of this region. An attempt is made to explore the anatomy of *Gudapradesh* involving during the management of diseases of this region. In this study total 50 patients were enrolled randomly, out of which 35 patients of Fistula in ano, 12 patients of Hemorrhoids and 3 patients of Pilonidal sinus.

Keywords: *Guda Pradesh, ShalyatantreeyaSharir, Ksharsutriya*

INTRODUCTION

Acharya Sushruta always emphasized on the principle of “Believe on what you see”. Only he can be consid-

ered as an expert or competent surgeon who is well versed in practical as well as descriptive anatomy.

Therefore, surgeon must be well aware of vulnerable anatomy concerning the surgical procedures. This can be achieved practically by looking upon underneath and neighboring anatomy. In recent advancement of teaching and study of anatomy involves the clinical and surgical aspects of the region in spite of studying the simple presence of arteries, veins, nerves, origin and insertion of muscles of that particular region. *Acharyas* explained not only etiological factors, pathology, classification and treatment but also explain some anatomical facts about *Guda Pradesh*. Some previous researchers explained detailed anatomy of *Guda Pradesh* with the help of modern anatomy. They found that terminal end of *Mahasrotas* (anal region of gastrointestinal tract) has been surrounded with structures such as *Gudkukundariyakhata* (ischioanal fossa), *Vahya Gudasankonchiniya* (External anal sphincter), *Abhyantara Gudasankonchiniya* (Internal anal sphinctures), *mulapindika* (perineal body), *muladhar-koshthika* (superficial perineal pouch) and other *kalamayastara* (membranous layers). But the surgeon needs explanation of anatomy during treatment of these diseases according to the location of *pidaka* of *bhagandara* or pile mass with underlying structures. The present study has been conducted for achieving the above-mentioned goal. Thus, this study is planned to understand the surgical anatomy of *Gudapradesh* and to explore the anatomical structures which are involving during the *Ksharsutriya* treatment of diseases of *Gudapradesh*.

Plan of Study

Literary Study: This study was undertaken through critical review of relevant literature in order to bring out *ShalyatanreeyaSharir* of *Gudapradesh*. This part of study initiated by collection of different literatures about anatomy of *Gudapradesh*, *Arsha* (Piles), *Bhagandara* (fistula in ano) from different *Ayurvedic* and modern texts.

Clinical Study: This part of study was performed by analysing the patients of piles, fistula in ano and pilonidal sinus selected by simple random sampling method, from the OPD and IPD of *Shalya Tantra*, State Ayurvedic College and Hospital Lucknow.

Inclusion Criteria:

1. Cases have taken between the ages of 18 yrs. to 70 yrs.
2. Cases has selected randomly irrespective of sex, length of track and *prakriti*.

Exclusion Criteria:

1. Patient who are suffering with diabetes mellitus, Tuberculosis, HIV, Hepatitis B and other congenital diseases, biopsy of the tract suggestive of malignancy.
2. Pregnancy piles.
3. Cases have not been taken below 18 yrs. and after 70 yrs.

Study Design-In this study total 50 patients were enrolled randomly, out of which 35 patients of fistula in ano, 12 patients of piles and 3 patients of pilonidal sinus were being diagnosed on following basis.

1. History of the Patient
2. Systemic Examination
3. Local Examination
 - a. Inspection
 - b. Palpation
 - c. Digital Rectal Examination
 - d. Instrumentation – probing, fistulogram & Proctoscope

Observation and Result

Maximum 75% patient had internal piles whereas 25% patient had Interno-external piles. Maximum number of primary pile mass had 3, 7 & 11 O'clock position During diagnosis of 35 patients of Fistula-in-ano, the maximum patients (48.57%) were observed under the Intersphincteric type, 11.42% under Suprasphincteric, 17.14% under Transsphincteric, 2.85% under Extrasphincteric, 20% under Subcutaneous types were observed. The maximum cases i.e. 21 cases (60%) were having distance from anal verge, in between 3.1 to 6 cm, 12 cases (34.28%) were having in the range of up to 3 cm and 2 cases (5.71%) in the range of in between 6.1 to 9 cm. About 40% had the external openings at the posterior perineal triangle (5, 6, & 7 O' Clock), and 54.28% had external opening laterally; as gravity causes the pus to get collected in the most dependent area, which in turn leads to the

formation of abscess and ultimate fistulous opening at that particular region.

DISCUSSION

According to *Ayurvedic Acharyas*, *Guda* is one of the external *srotas*¹ among the nine external *srotas* found in the body. It evacuates the faeces and flatus out of the body under the influence of the *Apana vayu* that's why *Acharyas* distinctly considered *Guda* as the root of *Purishavaha srotas*². *Guda* has been also considered as *Sadyapranahara marma*³. *Acharyas* also cited this organ under the heading of *Pranayatana*⁴. After the compilation of dispersed anatomical description of *Gudapradesh*, it can be summarized that *Guda* has the length of $4\frac{1}{2}$ *Angula*⁵ having the colour of palate of Elephant (White or Blackish pink)⁶. It is divided into *uttarguda* and *adhar guda*⁷ along with *Gudaustha*⁸. Underlying structures of *Guda* can be divided into three *gudavalies* by $1\frac{1}{2}$ *Angulapramana*. Most internal *vali* is known as *Pravahini* with the function of pushing the mala downwards. *Visarjanivali* is middle in situation with the function of expansion of *guda* and expulsion of mala. Thereafter, *Samvarani vali*⁹ situated one *Angula* above the terminal part of *guda* known as *Gudaustha* (half *anguli* in width).

Surgical Anatomy Observed In Patients Suffering From Arsha (Hemorrhoid)

Arsharoga in *Ayurvedic* literature can be correlated with hemorrhoids or piles in modern science supported with similarity in sign, symptoms and pathology of disease. Hemorrhoids are thickening of the mucosal or submucosal cushion above the vascular region found within the submucosal space of the anal canal. These cushions are normal anatomic components of the anus, and serve to maintain closure of the anal canal, thus contributing towards fecal continence. Histopathological study of internal hemorrhoids shows it not merely a thickening of mucosa or sub mucosa within the anal canal, rather discrete specialized structures with specific physiological function. Hemorrhoids are thickening of the mucosal or sub mucosal cushion above the vascular region found within the sub mucosal space of the anal canal. These cushions are a normal anatomic component of the anus, and

serve to maintain closure of the anal canal, thus contributing toward fecal continence. Histologically it is proven that the hemorrhoids are composed of blood vessels, connective tissue, smooth muscle, and elastic tissue superiorly covered with columnar epithelium. The smooth muscle contained within the sub mucosal space, and therefore within the hemorrhoids, known as Trietz's muscle, originates from the conjoined longitudinal muscle and the internal sphincter. Hemorrhoids typically exist at three locations, the left lateral, right anterior, and right posterior positions of the anal canal, which is represented clinically as 3, 7, and 11 O' Clock position. A bluish coloration of internal hemorrhoid may suggest presence of vein within. However histological analysis of hemorrhoids reveals the cushions having sinusoids. A pH analysis of hemorrhoidal blood shows proximity with arterial blood. External hemorrhoids are lined by anoderm and skin. Histological examinations show that external hemorrhoids are composed of blood vessels, connective tissue, elastic tissue and smooth muscles¹⁰.

Surgical Anatomy Observed In Patients Suffering From Bhagandara (Fistula In Ano)

According to the *Ayurvedic Acharyas*, *Bhagandara* can be defined as a dischargeable *vrana* within two finger vicinity of *Guda* with a history of a *Pidaka (Purvarupa)*, which in time duration burst, heals and reoccurs and produces a painful condition at the perianal region¹¹. Anal fistulas with anteriorly located external openings have their internal openings in the same radial line. When Fistula found more than 2.5 cm from the anal verge, on the anterior aspect of the anal canal can be categorized in to two types. First group of fistula is found more than 3 cm from the anal verge, here Goodsall's rule explain that the fistula tract can involve external sphincter, both external and internal sphincter or internal sphincter due to its curved internal opening into the posterior mid line. Muscles of the perineal body, superficial fascia and deep fascia of this region may be the anatomical structures involving in this type of fistulous tract. In another group where the opening is situated on the scrotal region follow Goodsall's rule i.e. their internal openings in the same radial line. Anal fistulas with scrotal

extension were mostly low transsphincteric or intersphincteric anal fistulas with anterior internal openings. The layers of the scrotum, from the surface to the testis consist of epidermis dartos fascia, Colles's fascia, and external spermatic fascia is involved. Along with superficial transverse perineal, bulbospongiosus and ischiocavernosus muscles are the anatomical structures found around the fistulous tract before opening into the anterior margin of anal canal¹².

If the fistulous opening is present on the lateral aspect of the anal canal, then the curved fistulous tract will involve the skin, superficial fascia, deep fascia, ischio-rectal fossa along with deep, superficial or subcutaneous part of external sphincteric and internal sphincter separately or with combination based on its type on the basis of Park's classification.

Type 1 or Intersphincteric Fistula arises from the anal canal, penetrates the internal anal sphincter, and descends through the intersphincteric plane to its cutaneous opening. The external anal sphincter remains intact, and there are no secondary tracts, associated abscess, or supralelevator component.

Type 2 fistula refers to a type 1 fistula with an intersphincteric abscess or secondary tract. Similar to a type 1 fistula, a type 2 fistula is confined by the intact external anal sphincter. The horseshoe extension is a subtype to describe a secondary tract that crosses the midline and surrounds both sides of the internal anal sphincter.

Type 3 or Transsphincteric fistula arises from the anal canal, penetrates both the internal and external anal sphincters, and descends through the ischioanal fossa to open in the perianal skin. There are no secondary tracts, associated abscess, or supralelevator component.

Type 4 fistulas are a type 3 fistula complicated by abscess or secondary tracts. The pelvic diaphragm, however, should be intact.

Type 5 fistula is characterised by cranial extension above the levator ani. A suprasphincteric fistula arises from the anal canal, penetrates the internal sphincter, extends upward through the intersphincteric plane to the supralelevator space, and then passes through the levator ani as it descends through the ischioanal fossa

to the perianal skin. An extrasphincteric fistula is caused by pelvic disease that extends caudally through the levator ani and ischioanal fossa to its cutaneous opening. Both internal and external anal sphincters are intact in such cases.

If the fistula tract is present on the posterior region from the opening of anal canal, it will involve skin, superficial fascia and deep fascia, the mass of fibromuscular tissue and anococcygeal ligament. Mostly fistulous tract of this region comes under the intersphincteric type¹³.

Surgical Anatomy Observed In Patients Suffering From Pilonidal Sinus

In pilonidal sinus, it is observed that there is involvement of skin and subcutaneous tissue during Kshara sutra treatment. It never involves the deep structures of that particular site.

CONCLUSION

In this work, the *Shalyatanreeyagyan* of *Gudapradesh* in relation to diseases of *Gudapradesh* as *Arsha*, *Bhagandara*, Pilonidal sinus will be explored on the basis of observation of *Ksharsutriya* process taking place in this region. From above study we can understand the surgical anatomy of *Gudapradesh* and to explore the anatomical structures which are involving during the *Ksharsutriya* treatment of diseases of *Gudapradesh*.

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