



Conformation of *Guda* length in comparison with rectum and anal canal

Jyoti Ganesh Girigosavi^{1*}, Vijay P. Patait², Rajashree H. Bharati³

1. Associate Professor, Sharir Rachana Dept., APM's Ayurved Mahavidhyalay, Sion, Mumbai, Maharashtra
2. Associate Professor, Sharir Kriya Dept., APM's Ayurved Mahavidhyalay, Sion, Maharashtra
3. Professor, Samhita Dept., Hon. Shri. Annasaheb Dange Ayurved Medical college, Post Graduate and Research Center, Ashta, Sangali, Maharashtra

*Corresponding author: Email id- jyotigrigosavi158@gmail.com

Abstract:

Modern lifestyle developed many anorectal diseases like fistula, piles, etc. which occur in the rectum and anal canal. Modern science explained rectum and anal canal anatomy very accurately but Ayurveda also explained the concept of '*Guda*' very clearly. *Guda* is described under *Matruj bhava*¹ among the six bhavas in the production of the fetus. *Prasad bhag* of *Asruja* and *Shleshma* digested by *Pitta* after it acts by *Vata* in *Udara*, it produced *Antra*, *Basti*, and *Guda* same process as gold purification. *Guda* is '*Vata-Varcho Nirasanam*', '*Sthulantra Pratibadham*', and '*Sadhyapranhar Marma*' according to *Sushruta*³. its function is similar to the rectum and anal canal. So *Guda* is the rectum and anal canal. *Guda* is not the total rectum and anal canal or only the anal canal but it is some distal part of the rectum that is up to the middle of *Houston's* valve and the total length of the anal canal.

Keyword: *Guda*, Rectum, Anal canal, length of *Guda*, length of Rectum, length of Anal canal

Introduction:

In the modern era, changed dietary pattern and modern lifestyle developed many anorectal diseases like fistula, piles etc. Which occurs in the rectum and anal canal. Modern science explained rectum and anal canal anatomy very accurately but Ayurveda also explained concept of '*Guda*' very clearly.

Here we have to see *Guda* and modern anorectal region are same or different. *Guda* is '*Vata-Varcho Nirasanam*', '*Sthulantra Pratibadham*' and '*Sadhyapranhar Marma*' according to *Sushruta*³. *Charakacharya* used additional 2 words for *Guda* as, '*Uttar Guda*' and '*Adhar Guda*' while explaining 15 *Koshthange*¹. In *Chakrapani Tika* *Uttar Guda* is that who holds the fecal matter (*Avastithati*) and *Adhar guda* is that who

defecates the fecal matter (*Nishkramati*). It means that *Uttar Guda* is sigmoid colon and *Adhar Guda* is rectum and anal canal. According to ayurveda who defecates *Vat* and *Varch* is *Guda* and its function is similar to rectum and anal canal. So *Guda* is rectum and anal canal.

Rectum and anal canal is the lowest part of GIT (gastrointestinal tract) and distal part of large intestine. Rectum word come from 'Rectus' means straight but human rectum is not straight like name it is found in *quadrupedes*. Although the rectum is part of large intestine, it is devoid of *teania coli*, *sacculatation*, *ependices epiploicae*. it is situated in front of the lower three pieces of the sacrum and coccyx. It is placed between sigmoid colon above and anal canal below. The junction between sigmoid colon and rectum is *rectosigmoid* junction. The junction between anal canal and rectum is anorectal junction. Recto sigmoid junction is lies at the level of S 3 vertebra. Anorectal junction is lies 2 to 3 cm. in the front of and little below the tip of the coccyx. Length of rectum is 5 inches or 12.5 cm. Circumference at recto sigmoidal junction is 4 c. m. and at lower end it has dilated ampulla⁴. Rectum relaxes and stretches to accommodate the waste as it gradually comes in from your colon. Rectum distension stimulate stretch receptor which initiate afferent or sensory impulse. It transmits impulse from pelvic and hypogastric nerve to sacral spinal cord segment. This impulse travel from spinothalamic track to cortex which produced conscious perception of the urge of defecation.

The last part of the gastrointestinal tract is anal canal is about 3.8 cm long and lies completely **extra peritoneal**. It begins at the anorectal junction distally from the perineal flexure and ends at the anus. It is divided into following three anatomical zones

1. Columnar,
2. Intermediate
3. Cutaneous.

The **dentate (pectinate) line** divides the anal canal into upper (two-thirds) and lower (one-third) parts, each one being supplied by completely different neurovascular structures. The functions of the anal canal include the maintenance

of **fecal continence** and **defecation**. This is achieved with the help of the anal sphincters and the *puborectalis* muscle.

Guda is described under *Matruj bhava* among the six bhavas in the production of fetus. *Prasad bhag* of *Asruja* and *Shleshma* digested by *Pitta* after it act by *Vata* in *Udara*, it produced *Antra*, *Basti* and *Guda* same process like gold purification. . Length of rectum is 12.5 c. m., Length of anal canal is 3.8 c. m and Total length of anorectal region 16.3 c. m. *Guda* length is 4 and 1/2 anguli. *Guda* is total rectum and anal canal or only anal canal now we will find out that, the difference in length of anorectal region and *Guda*.

Material and methods:

Material-

Literary review-collection of various references of *Guda*, from various Classical Samhita books and their commentator study was done from Ayurvedic *Grantas*, collection

of *Guda Sharir* and modern science, publish journals and text books.

Methods-

1. Level 1-collection of all literature references from various *Samhitas*.
2. Level 2- collection of literature references from various recent journals, magazines relating to studies.
3. Level 3 –arrange the literature in a tabular form.
4. Level 4 -synchronized all literary knowledge and find out the result.

Observation and statistic:

We have to find out the difference in length of anorectal region and *Guda*.

First we will see the total length of anorectal region

Length of rectum	12. 5 c. m.
Length of anal canal	3. 8 c. m.
Total length of anorectal region	16. 3 c. m.

Calculate the total length of *Guda*:

Guda length=4 and 1\2 *anguli*^{5,6,7}

Study by Institute of Medical Science B. H. U.

Average width of finger(1 *anguli*)=very close to 2 c. m.

Guda length=4 ½*2^{5,6,7}

Therefor *Guda* length is about 9 c. m.

It shows that,

Guda length < rectum and anal canal length 9 c. m. < 16. 3 c. m.

Ayurvedic Guda is not contain whole rectum and anal canal. now we find out how much length of rectum anal canal is consider as *Guda*.

Total length of *Guda* = 9 c. m.

Total length of anal canal =3. 8 c. m.

And some distal part of rectum = 5 to 6 c. m. Which is up to middle *Houston's* valve of rectum.

Discussion:

Total length of ano rectal region is 16. 3 cm., and *guda* length is 4 and 1/2 *Angul* which is equal to about 9 c. m. Which is less than total length of rectum and anal canal. So *Guda* is some distal part of rectum i. e. Distal 5 to 6 c. m. Which is up to middle *houstan's* valve and total length of anal canal i. e. 3. 8 c. m.

Conclusion:

Length of *Matruj Avayav* and *Sadhyaprahar Marma Guda* is 4 and ½ *anguli* (about 9 c. m.)which is less than total length of rectum and anal canal that is 16. 8 c. m. . *Guda* is not total rectum and anal canal or not only anal canal but it is some distal part of rectum is upto middle *Houston's* valve of rectum (Distal 5 to 6 c. m.) and total length of anal canal (3. 8 c. m.).

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