

**RACHANATMAKA STUDY OF SUSHIR SNAYU SPECIALLY PAKWASHAYASTHIT  
SUSHIR SNAYU WITH REFERENCE TO GUDAGATA VIKARAS**Viraj V. Jadhav<sup>1\*</sup> and Krishna Namdeo Kadam<sup>2</sup><sup>1</sup>Prof, Dept of Rachna Sharir, Principal, SAHMC, Gharuan, Mohali, Punjab.<sup>2</sup>Assistant Prof. Dept. of Rog Nidan Vikruti Vigyan, Government Ayurved College, Nanded, Maharashtra.**\*Corresponding Author: Dr. Viraj V. Jadhav**

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**ABSTRACT**

The present study is taken in due interest to study-Rachanatmak structure of Sushir Snayu. Fix location of Rachanatmak position of Pakwashayasthit Sushir snayu and to evaluate the changes that occurs if any in the study of Gudagat Vikaras. Out of 8 branches of Ayurveda Shalyatantra occupies the highest position of Numero -uno because more than 60% of patients can be treated with surgery only. It is the most important thing to study such types of diseases practically on the patients; this will help to evaluate a Rachanatmak change that occurs if any in these Gudagat vikaras. **Aims:** To do Rachanatmak and Vivechanatmak study of Sushir snayu, specially Pakwashayasthit Sushir snayu with referece to Gudagat vikaras; To do rachanatmak study of Pakwashaysthit sushir snayu and to fix the location of Pakwashayasthit Sushir snayu and to fix the location with the help of cadaver dissection; To study the Gudagata vikaras ie Fistula-in-ano (Bhagandar), Fissure-in-ano (Parikartika) and Piles (Arsha). **Objectives:** To do the Rachanatmak study of Sushir snayu; To do the comparative study of Sushir snayu ; To study about the snayus specially sushir snayu from the different Granthas; To study the anatomical changes if any after the occurrence of the Gudagat vikaras related to the Pakwashaysthit sushir snayu. **Materials:** Well preserved, intact dead body is taken for dissection to study Sushir Snayu, specially Pakwashayaante sthita sushir snayu; For clinical examination, patients taken having Gudagat vikara ie Fissure in ano, fistula in ano and haemorrhoids. **Methods:** Dissection methods, according to Cunningham's Manual of practical anatomy are used to study Sushir snayu specially Pakwashayante sthita sushir snayu. **Results:** Results were concluded on the basis of observations which were found during the cadaveric dissection as well on the basis of patients with anorectal diseases.

**KEYWORDS:** Snayu, Sushir snayu, Fisula, Fissure in ano, Piles, Pakwashaya.**INTRODUCTION**

Ayurveda is boundless ocean of knowledge and probably is the only medical science which has such elaborate knowledge about the other living beings. It is an eternal truth valid for all time past, present and future. India has a century old background of Ayurveda, one of the ten important boons to the human being from the Gods own hands. Chief objects of this science are preservation of health and prevention of diseases. Human beings are suffering from different diseases due to non-maintenance of dincharya, rutucharya and environmental pollutants, the doctrines of charyas as advised in Samhita granthas are highly essential for preservation of good health.

Sushrutacharya rightly acclaimed the father of ancient surgery has made many contributions, some of which have been recognised and some are yet to be explored and acknowledge like reconstructive surgery, surgeries on different parts of body. Surgical instruments, dissection of cadaver to study anatomy, snayu, pesh, sandhi, marma, strotas, kala, ashayas, asthi etc. and

practical experiment on different materials before learning surgery.

The vaidyas having the entire knowledge about the Sharir gives happiness to all world affected by diseases and he only knows the whole Ayurveda which gives happiness. The Vaidya who knows the normal anatomy and physiology, he is only able to treat the happened abnormal things related to anything. Among them, Snayu sharir has got an important sthana in shalyatantra it is because of the reasons. The vaidyas having good knowledge of external and internal Snayu will be able to remove the deep the penetrated shalyas from any part of the sharir. Such type of study of Snayus in the sharir has been explained by Sushrutacharya in Sushrut Samhita in the sharir has been explained by Sushrutacharya in Sushruta Samhita Sharirsthana Pancham Adhyaya i.e. Sharir sankhyavyakaransharir through the Rachanatmaka view of sharir.

The total number of Snayus described in Ayurveda are 900.

The distribution of these Snayus according to Rachanatmaka view are Pratanavati Snayu, Vrutta Snayu, Pruthu Snayu, Sushir Snayu. Pratanvati Snayu is located in every Shakha and Sandhi. Vrutta Snayu are located in kandara. Pruthu Snayu are located in Parshva, Ura, Prushtha and Shir. Sushir Snayu is located at the end of Amashaya, Pakvashaya and Basti. Snayu with a hole or hollow like structure is known as Sushir Snayu.

Science is the knowledge arranged in an orderly manner, especially knowledge obtained by observations and testing of facts. Understanding of ancient Ayurvedic concepts through investigative measures becomes essential academic exercise because contemporary method and understanding are used in clinical practice of Ayurvedic medicine.

#### The present study is taken in due interest to study

1. Rachanatmak structure of Sushir Snayu.
2. Fix location of Rachanatmak position of Pakwashayasthit Sushir snayu and to evaluate the changes that occurs if any in the study of Gudagat Vikaras.

Out of 8 branches of Ayurveda Shalyatantra occupies the highest position of Numero -uno because more than 60% of patients can be treated with surgery only.

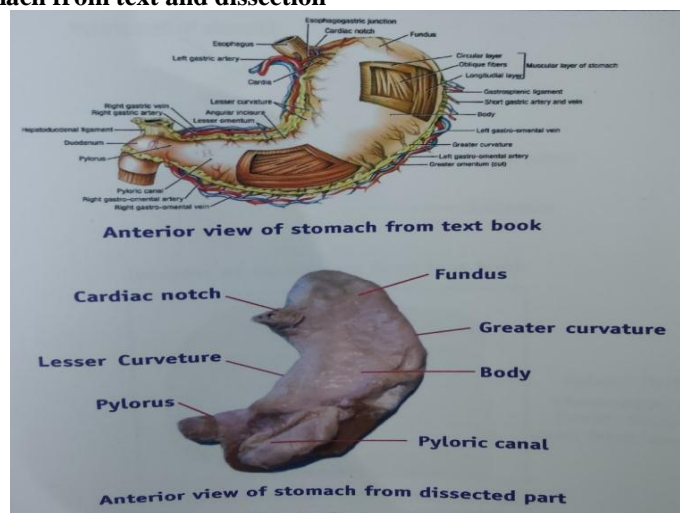
It is the most important thing to study such types of diseases practically on the patients; this will help to evaluate a Rachanatmak change that occurs if any in these Gudagat vikaras.

#### Aims

1. To do Rachanatmak and Vivechanatmak study of Sushir snayu, specially Pakwashayasthit Sushir snayu with referece to Gudagat vikaras.

#### Dissection of stomach

##### 1. Anterior view of stomach from text and dissection



2. To do rachanatmak study of Pakwashaysthit sushir snayu and to fix the location of Pakwashayasthit Sushir snayu and to fix the location with the help of cadaver dissection.
3. To study the Gudagata vikaras ie Fistula-in-ano (Bhagandar), Fissure-in-ano (Parikartika) and Piles (Arsha)

#### Objectives

1. To do the Rachanatmak study of Sushir snayu.
2. To do the comparative study of Sushir snayu
3. To study about the snayus specially sushir snayu from the different Granthas.
4. To study the anatomical changes if any after the occurrence of the Gudagat vikaras related to the Pakwashaysthit sushir snayu.

#### MATERIALS AND METHODS

##### Materials

Well preserved, intact dead body is taken for dissection to study Sushir Snayu, specially Pakwashayaante sthita sushir snayu. For clinical examination, patients taken having Gudagat vikara ie Fissure in ano, fistula in ano and haemorrhoids.

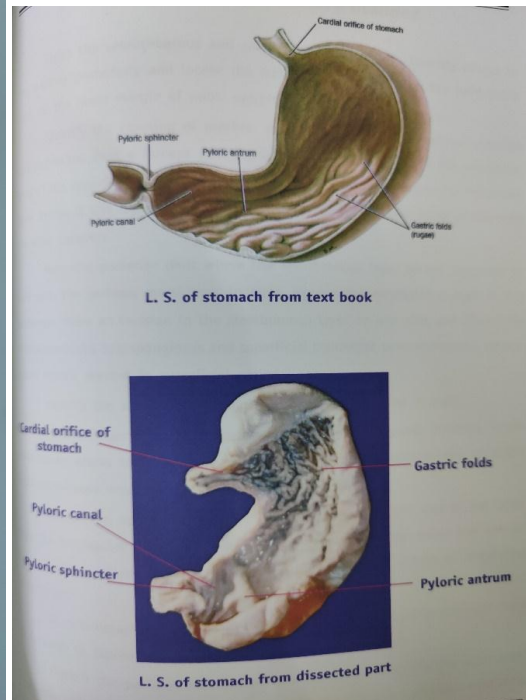
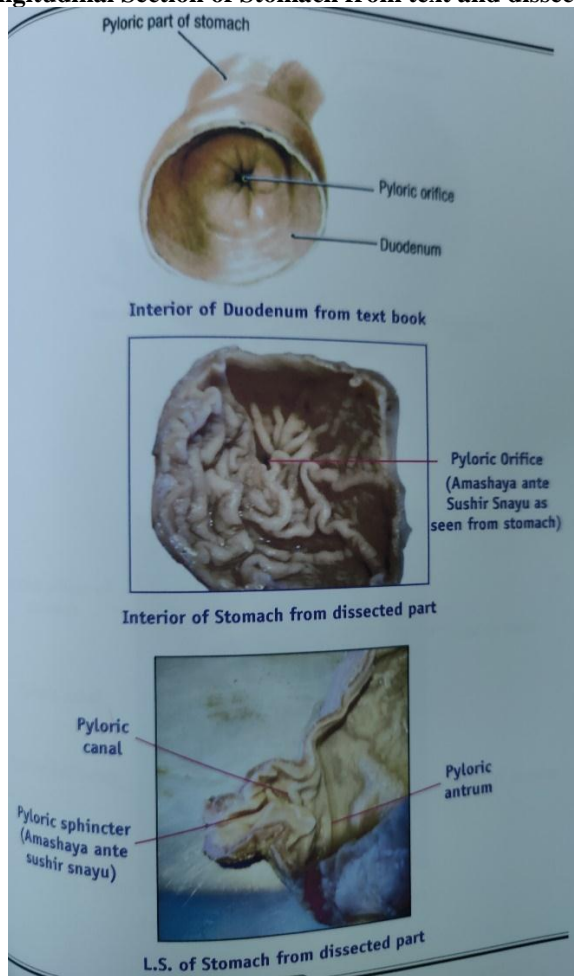
##### Methods

Dissection methods, according to Cunningham's Manual of practical anatomy are used to study Sushir snayu specially Pakwashayante sthita sushir snayu.

#### OBSERVATION

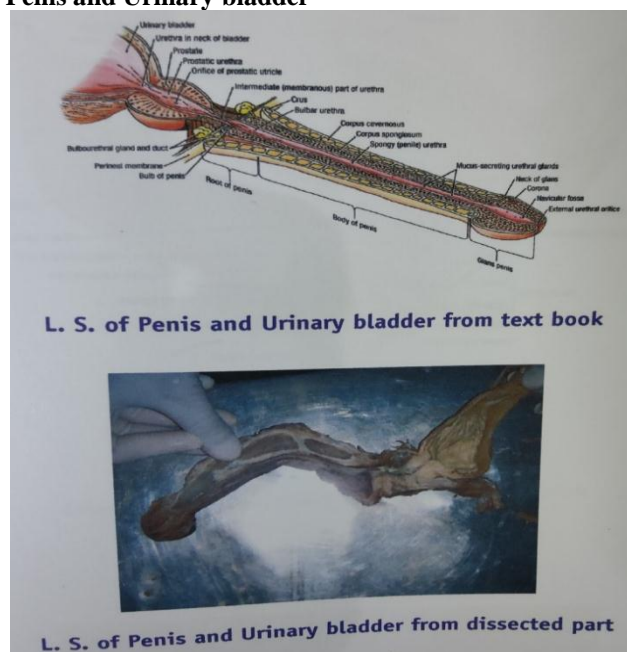
After dissection on intact dead body by following proper dissection methods, following observations observed and captured and compared them with images in texts-

**2. Longitudinal Section of Stomach from text and dissected part**

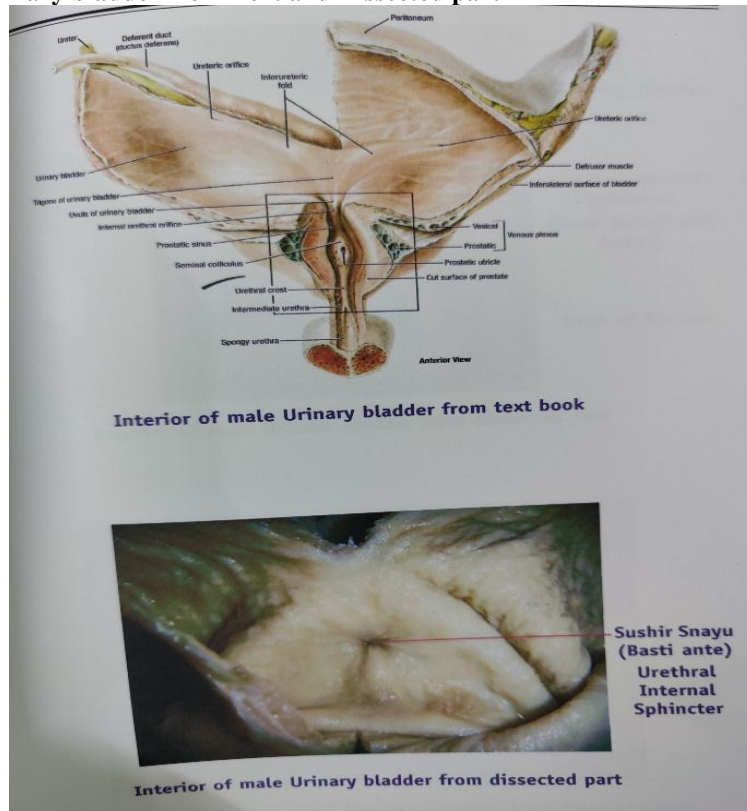


**Dissection of urinary bladder**

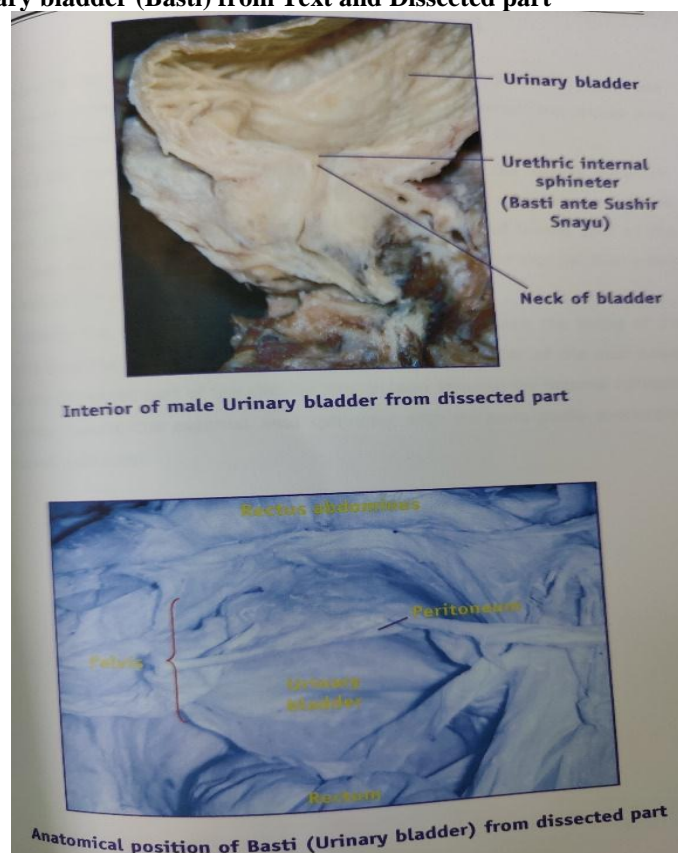
**1. Longitudinal Section of Penis and Urinary bladder**



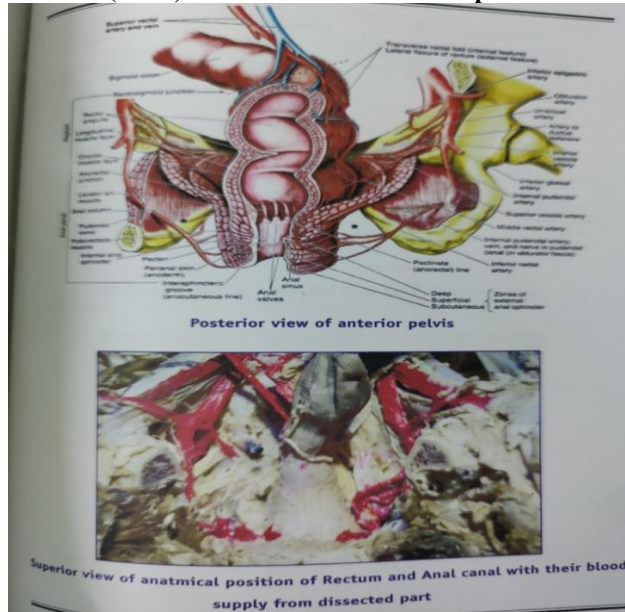
2. Interior of male urinary bladder from Text and Dissected part



3. Interior of male urinary bladder (Basti) from Text and Dissected part

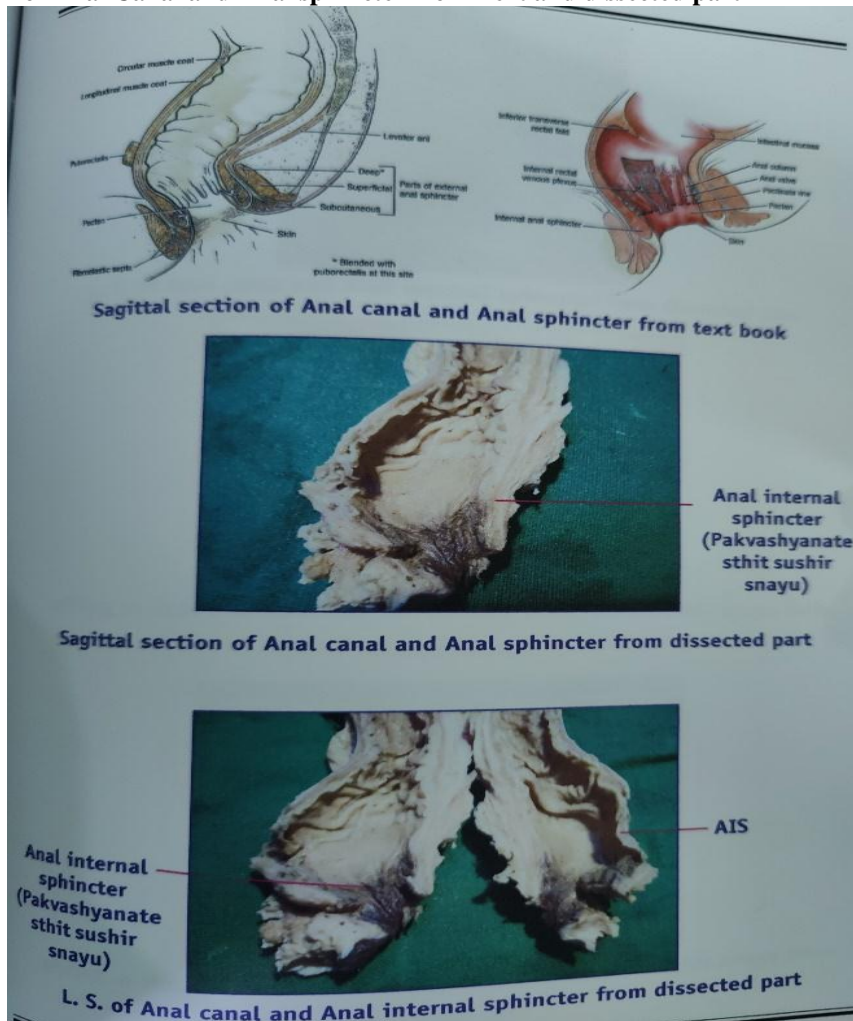


4. Interior of male urinary bladder (Basti) from Text and Dissected part

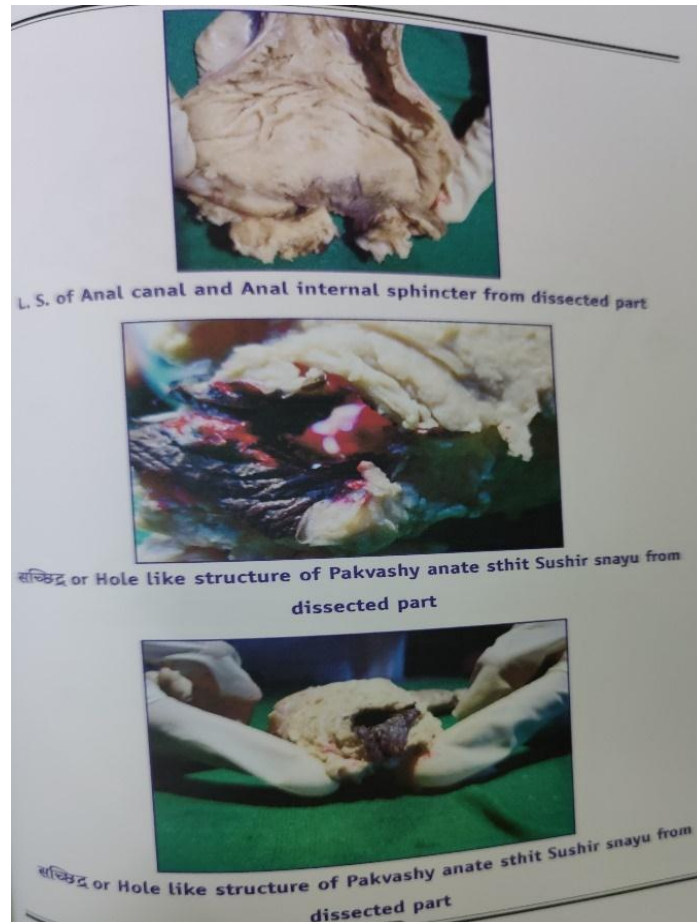


Dissection of anal canal

1. Sagittal section of Anal Canal and Anal sphincter from Text and dissected part

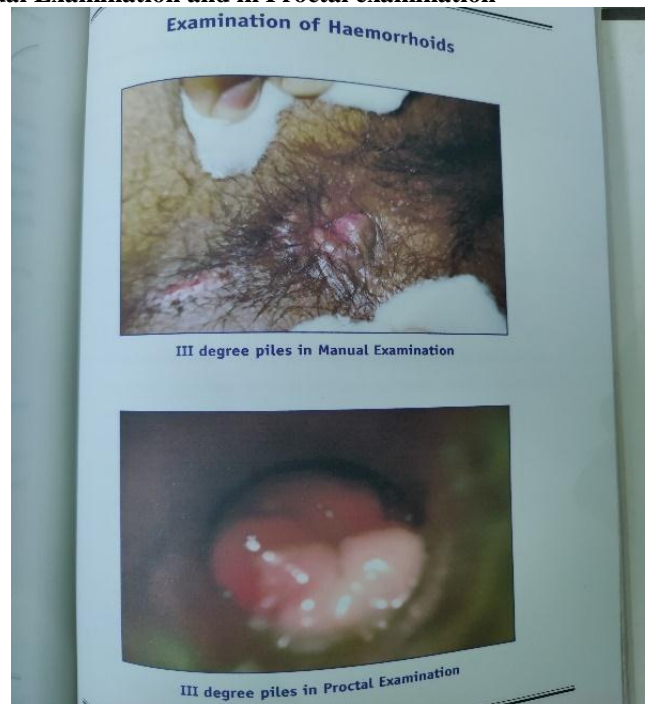


## 2. Anal canal



## Examination of haemorrhoids

### 1. III degree piles in Manual Examination and in Proctal examination



## 2. Manual examination in fistula in Ano and Fissure in ano



### DISCUSSION

P'a%yaxatao ih yaddRYTM Saas~dRYTM ca yad\ Bavaot\ È samaasatstduBayam BaUyaa0 &anaivavaQa-nama\ ÈÈ sau.Saa. 5A48

This sutra explains both detailed study of texts and dissection are mandatory to enrich one with undoubted knowledge.

According to Sushrutacharya, Snayu is one of the structures described in Pancham adhyaya of Sharirsthana ie Sharirsankhya vyakhyayana adhyaya. He has mentioned the total numbers of Snayu is 900 and he also made the four types of the Snayu's among them one is Sushir Snayu. Sushrutacharya stated the location of Sushir Snayu at the end of the Amashaya, Basti and Pakvashaya. Sushir means the 'hole or hollow' like structure i.e. Sachidra Rachana. As mentioned by the Acharya in the text the location of the Sushir snayu at the end part of Amashaya, Basti and Pakvashaya. In light of modern science i.e. all these there organ can be correlated with the modern concept with the –

End part of amashaya i.e. stomach;  
End part of basti i.e. Urinary bladder;  
End part of Pakvashaya i.e. Anal canal.

The functions of the snayu i.e. Sushir snayu is at the end part of Amashaya, Basti and Pakvashaya i.e. end part of stomach, urinary bladder and large intestine. And the end part of stomach i.e. pylorus, end part of urinary bladder i.e. neck of bladder and end part of large intestine i.e. anal canal.

Anatomical or Rachanatmak correlation can be done with this above structure, as we think about the functional, anatomical nature of sushir snayu i.e. weight bearing function is done by the sphincter ie sushir snayu which is again situated at the end part of stomach i.e. pyloric sphincter, end part of urinary bladder i.e. urethric sphincter and end part of large intestine i.e. anal sphincter. As all these sphincters do the functions of weight bearing according to modern science.

As the meaning of the Sushir suggest like Hole or Hollow like structure we can correlate in advance with the structure i.e. Internal sphincter of all these three structure as the orifice or opening closes it again looks like a Hole or Hollow like structure i.e. Sachidra Rachana. As all these sphincters have been made up of circular muscle fibre and having the function of contraction and relaxation. All these structures of Sushir snayu according to modern cannot be correlated with the three Sushir snayu. All these structures of Sushir snayu according to modern cannot be correlated with the external sphincter because –

- The external sphincter has the bony attachment
- External sphincter has its skeletal muscle as it is attached to bones.
- External sphincter also has the function of contraction and relaxation and the weight bearing function but as we have seen that meaning of the Sushir snayu ie hole like structure and these external sphincter don't show the 'Hole' like structure.

Now it is clearly correlated the Sushir snayu with the internal sphincter present at the end site of stomach i.e. Amashaya, urinary bladder i.e. Basti and end part of Pakvashaya i.e anal sphincter. All these internal sphincter have the same functions, same anatomical structure, same type of nerve supply etc. That means-

- It is involuntary in nature
- Internal sphincter is made up of smooth muscle fibres
- Sphincter muscle fibers do not have bony attachments.
- Histologically made up of thickened circular muscle coat.
- Same type of nerve supply i.e. both parasympathetic and sympathetic.
- Functions- i.e.
  - a. Contraction and relaxation
  - b. Weight bearing

Sushir snayu is made up from the Meda and Sneha's Khar Pak and from the Pitruj bhav among the Shad Bhavas and embryologically it is developed in the third month of intra-uterine life and also it is made up of Panchamahabhuta according to the Sushrutacharya.

Charakacharya and Sushrutacharya has mentioned snayu as-

- a. Subparts of the body
- b. Mulasthan of Mansavaha strotas
- c. Upadhatu of Meda
- d. Marma

As the end part of Sushir snayu i.e. Amashaya(stomach), Basti (urinary bladder) and Pakvashaya i.e. anal canal, the comparison is as follows-

		<b>Stomach (Amashaya)</b>	<b>Urinary Bladder (Basti)</b>	<b>Anal canal (Pakvashay ante)</b>
1.	<b>Strotas</b>	Mulasthana of Annavaha strotas(Su.Ch.)	Mulasthana of Mutravaha strotas(Su.Ch.)	Mulasthana of Purishvaha strotas(Su.Ch.)
2.	<b>Dosha</b>			
	a. <b>Vata</b>	---	vatasthana	vatasthan
	b. <b>Pitta</b>	Pittasthana		
		Ranjak pitta		
	c. <b>Kapha</b>	Kledak kapha		
3.	<b>Dosh Sancharsthan</b>	Saman vayu	Apan vayu	Apan vayu
4.	<b>Rogmarga</b>	Madhyam marga	Madhyam marga	Madhyam marga
5.	<b>Nutrition</b>	By four types of Sira i.e. Vata, Pitta, Kapha & Rakta Siras & Ahara rasa	By four types of Sira i.e. Vata, Pitta, Kapha & Rakta Siras & Ahara rasa	By four types of Sira i.e. Vata, Pitta, Kapha & Rakta Siras & Ahara rasa
6.	<b>Marma</b>			
	a. <b>Parinam</b>	---	Sadyapranhara Marma	Sadyapranhara Marma
	b. <b>Rachanatmaka</b>	---	Snayu Marma	Mamsa marma(Su.) Dhamni marma (A.H.)
	<b>Sthana</b>		Udarsthana	Udarsthana
	<b>Sankhya</b>		1	1
	<b>Nirman dhatu</b>		Snayu	Mansa
	<b>Guna</b>		Agni	Agni
	<b>Pariman</b>		Mushti	Mushti

	<b>Pyloric Sphincter(Internal)</b>	<b>Urethral Sphincter(Internal)</b>	<b>Anal Sphincter (Internal)</b>
1.	It is involuntary in nature	It is involuntary in nature	It is involuntary in nature
2.	Histologically is formed by thickened circular muscle coat.	Histologically is formed by thickened circular muscle coat.	Histologically is formed by thickened circular muscle coat.
3.	Internal sphincter is made up of smooth muscle fibres	Internal sphincter is made up of smooth muscle fibres	Internal sphincter is made up of smooth muscle fibres
4.	Sphincter muscle fibers do not have bony attachments	Sphincter muscle fibers do not have bony attachments	Sphincter muscle fibers do not have bony attachments



5.	Same type of nerve supply i.e. both parasympathetic and sympathetic	Same type of nerve supply i.e. both parasympathetic and sympathetic	Same type of nerve supply i.e. both parasympathetic and sympathetic
6.	Functions- i.e. a. Contraction & relaxation b. Weight bearing	Functions- i.e. a. Contraction & relaxation b. Weight bearing	Functions- i.e. a. Contraction & relaxation b. Weight bearing

Sushir snayu related to the Pakvashayante sthana it can be correlated to the structure ie Guda. As Guda is the end part of the Pakvashayante Sushir snayu present at this site ie Guda which has control on the faecal and flatus excretion with the help of apan vayu, located in Pakvashaya.

Important thing mentioned in Ayurvedic texts about Guda is from the Srushti Utpatti. The Tejas Ahankar with the help of Satvik Ahankar it produces Ekadesh Indriya i.e. five karmendriyas. Among the Karmendriya, Guda is one karmendriya. Sushrutacharya in Masanumasi utpatti told that Guda has been formed in 4<sup>th</sup> month of foetal life. In Ayurveda utpatti, Guda has been formed from sara part of the Rakta and Shleshma, digested by Pitta and at the same time the entry of Vayu, forms the Guda.

Guda, the Matrui Bhava Avayava, functionally as Karmendriya is Visarga i.e. Excretion of flatus and faecal matter. Guda is also mentioned as one of the Bahya Strotas, Mulasthanas of Purishvaha strotas.

According to sushrutacharya, Guda is described as marma.

1. Marma - Guda
2. Sankhya - 1
3. Nirmandhatu – Mamsa
4. Type – a. Pariman – Sadypranhar  
b. Rachana – Mansa(Su), Dhamani (A.H.)
5. Guna – Agni
6. Pariman – Mushti

Guda is one of sthan of Dash Pranayatan. Sushrutacharya has described Guda in Nidansthana. It is of 4 Angula and 3 valis like the spiral of counc and looks like palate of elephant, three valis namely-

1. Pravahini Vali – 1 <sup>1/2</sup> Angula
2. Visarjini Vali – 1 <sup>1/2</sup> Angula
3. Sawarni Vali – 1 <sup>1/2</sup> Angula

Situated at the Gudas thana. Gudagata vikaras are described by Ayurveda such as Arsha, Bhagandara, Parikartika etc. The part of Sushir snayu mentioned at the end of Pakvashaya is Guda.

The clinical study of Gudagat vikaras each 10 consecutive patients with Fissure in ano, Fistula in ano, Haemorrhoids were included in the study and diseases occurring at the site of Sushir snayu reveals the Rachanatmak changes at the site of internal Anal sphincter only in Fistula in ano and Fissure in ano.

#### Anatomical changes in fissure in ano

1. Fissure is a small tear in the lining of the anal canal in the midline posteriorly.
2. Fissure tear in the anal lining which exposes underlying muscles of internal anal sphincter.
3. Internal Anal sphincter muscle is exposed, it goes into spasm causing discomfort and painful bowel evacuation.
4. Fissure are more common posteriorly because of the configuration of the muscle that surrounds the complex, referred to as the external and internal anal sphincters, underlies and support the anal canal.
5. Anal sphincters are oval supported at their sides and weakest posteriorly when tear occurs in the anoderm therefore they are more likely to be posteriorly.
6. In females Anal canal due to presence of the vagina anterior to the anus for this reason 10% of cases in female have anterior fissure in ano.
7. Studies of the anal canal in patients with anal fissures consistently show that the sphincter surrounding the anal canal are contracted i.e. they are in spasm, there are generating pressure in the canal that is abnormally high.
8. Internal anal sphincter is in spasm, in addition after the back to its resting level of contraction and pressure, the internal anal sphincter contracts and second before it goes to its elevated resting level of contraction. It is thought that high resting pressure
9. The supply of blood to the anus and anal canal also may play a role in the poor healing of anal fissures i.e. Anatomically Anal canal of cadavers founds that in 85% of individuals the posterior part of the anal canal where most fissures occurs than the other parts of the anal canal. This relatively poor flow of blood may be a factor in preventing fissure from and healing possible that the increased pressure in the anal canal due to spasm of the internal Anal sphincter may compress the blood vessels and further reduce the flow of blood.

#### Anatomical changes in fistula in ano

1. Fistula is a small tunnel or tract that connects one surface in the body to another, when such a tunnel occurs between the interior of anal canal and the external skin of the body near the anus.
2. According to the Cryptoglandular theory – abscess result from obstruction of the anal glands and ducts , obstruction of a duct may result in stasis, infection and formation of an abscess persistence of anal gland epithelium in the part of the tract between the crypt and the blocked part of the duct results in the formation of the fistula.

3. There will be single or multiple tract with an external opening in the skin of the perianal region and internal opening in the modified skin or mucosa of the anal canal.
4. Tract is composed of thick tough layer of fibrous tissue which in intact fistula forms a fibrous tube lined on its inner aspect by a layer of granular tissues.
5. In submucosa fistula- a blind sinus extending upwards from an opening at the level of pectinate line and lie in the submucosa entirely internal to the sphincteric musculature ie between the two sphincter.
6. In inter -sphincteric fistula- tract passes within the inter sphincteric space – 70% of cases infection process may pass into the inter sphincteric plane and terminate as a blind tract there is no downward extension to the anal margin and thus no external opening is present. Infection may also spread into the inter sphincteric place to reach the pelvic cavity to lie above the levator ani muscles and inter sphincteric fistula may originate.
7. In trans- sphincteric fistula- tract passes from the internal opening through the internal and external sphincter to the ischio rectal fossa.
8. The classification of Fistula in Ano itself indicates the anatomical changes in the anal sphincter.

### CONCLUSION

Rachanatmaka study of Sushir snayu specially Pakvashaya Ante Sushir snayu reveals following points—

1. Sushir Snayu structurally mentioned ie (Sachidra rachna) and functionally ie (Bhar saha) is nothing but internal sphincter located at the end part of Amashaya, Basti and Pakvashaya.
2. Pakvashaya ante sushir snayu (Guda) ie anal canal stated structurally i.e. Hollow or Hole (Sachidra rachna) like structure and functionally weight bearing ie Bhar saha is nothing but internal anal sphincter.
3. Diseases occurring at the site of Pakvashaya ante sushir snayu reveals the Rachanatmak changes at the site of internal anal sphincter in only fissure in ano (parikartika) and Fistula in ano (Bhagandar).
4. Thus Sushir snayu is described on the basis of relational anatomy by Pratyaksha praman only during Shavavicchedana (dissection)
5. Pakvashaya ante part can be correlated with the Guda i.e. anal canal.  
Thus the concept of Sushir snayu is acceptable with no other correlation pathways but only with relational anatomy and dissection of dead body, which concludes Sushir snayu as stated by acharya Sushruta is nothing but internal sphincter of end part of Amashaya (stomach), Basti (urinary bladder) and Pakvashaya (anal canal).
6. The clinical study of Gudagat vikaras reveals that diseases occurring at the site of Sushir snayu showed

the Rachanatmak changes at the site of internal Anal sphincter only in Fistula in ano and Fissure in ano.

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