

CONCEPT OF GARBHASHYA (UTERUS) *GARBHASHYA DWARA MUKHA* (CERVIX) FROM VARIOUS AYURVEDIC SAMHITAS

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ABSTRACT

Ayurveda is an eternal science of life. Gynecologist should have proper knowledge of anatomy and physiology of female reproductive system to rule out disease as well as for proper diagnosis and treatment of disease. In Ayurveda the anatomy and physiology of *Garbhashya* (uterus) & *Garbhashysa dwara mukha* (cervix) are described in *Sahreera sthana of various Samhitas*. But all of these reference are present in scattered way. So in present study there is an attempt to collect all references regarding anatomy and physiology of *Garbhashya* (uterus) & *Garbhashysa dwara mukha* (cervix) from different *Samhitas* and texts in a cohesive manner and their correlation with modern science. It will help to understand concepts and terminologies

regarding *Garbhashya* & *Garbhashysa dwara mukha* with respect to modern terminologies and explore the knowledge of female reproductive system.

KEYWORDS: *Stree Shareera, Shareera Sthana, Garbhashya, Garbhashysa Dwara Mukha, Uterus, Cervix, Female Reproductive System.*

INTRODUCTION

Ayurveda is an ancient science. It mainly consist of eight branches. i.e. *Shalya, Shalkya, Kaya, Bhoota, Koumaara, Agadha, Rasyana, Vajikarna* (Su.su.1/7). Acharya *Sushruta* said that a good physician should have knowledge of all eight branches of *Ayurveda*, because all these

branches are interconnected with each other. For treating any disease, one feels knowledge of pathology of that disease, but without the proper knowledge of anatomy and physiology of that particular organ, where disease occur, we does not find proper etipathogenesis of disease. In *Ayurvedic samhita* all the description about *stree shareera* are scattered in *shareera sthana* of all *samhitas*. In *samhitas* have put emphasis on applied aspect of science and hence instead of describing micro structural details, only described *Garbhashya* and *Garbhashya dwara mukha* in precise form wherever necessary. In this article I had tried to critically review maximum reference regarding anatomy and physiology of *Garbhashya*, *Grabhashya* and their correlating structure.

AIMS AND OBJECTIVES

1. Literary study of *Garbhashya* and *Garbhashya dwara mukha* from various *Ayurvedic Samhitas* in detail.
2. Correlation of *Garbhashya* and *Garbhashya dwara mukha* with modern science.

REVIEW OF LITERATURE

Literary review of *Garbhashya* and *Garbhahya dwara mukha* from *Ayurvedic samhita* and texts are given below:

ANATOMICAL AND PHYSIOLOGICAL REFERENCE OF GARBHASHYA (UTERUS)

SYNONMS OF GARBHASHYA

1. *Yoni* - Acharya *vagbhata* in *Sharira sthana* word *yonis* is used for *Garbhashya*. (AHS.1/35)
2. *Kukshi* –In *Sharira sthana* Acharya *charka* explained the word *Kukshi* in which formation and development of growing embryo.
3. *Garbha shayya* – Acharya *Vagbata* used both term *Garbhashya* and *Kukshi* for *Garbhashya*, which is site of *Garbha uttapti*.
4. *Kshetra* – Acharya *Sushruta* in *Sharira Sthana* explain four things which is necessary for fertilization, word *Kshetra* (field) is used for *Garbhashya* (SU.S.SH.2/33)
5. *Garbhakoshtha*–Acharya *vagbhata* in *Ashtanga Sangraha* has called the *Garbhashya* as *Garbhakostha* in *Sharira sthana*.
6. *Dhara* – *Sharangdhra* called the *Garbhashya* as the word *Dhara* (*Sharangdhra*.pu.kh.5/14)
7. *Phala*- *Sushruta* while explaining *peshis* in female, *phala* explained as *Garbhashya*

(Su.Sh. Dalhna teeka 5/41)

8. *Phala yoni* – *Sushruta* while explaining the contraindication of *Kshara karma*, *Kshara Karma* is contraindicated in *udvrita phalayoni* or *apavrita phala yoni* (displaced uterus in upwards or downward direction) (SU.SU.12/28)
9. *Garbha –adhara – Vagbata* explained in *Ashtanga Hridhya Arundata teeka*, *Garbhashya* as a seat of growing embryo.
10. *Antarghata phalam* - Dr. Ghanekar, commentator of *Sushruta Samhita* has elaborated this term, in his commentary. According to him *Antarghata phalam* is considered as ovary. But *Acharya Dalhana* and *Bhavapraksha* has correlate it with *Garbhashya*. Also *Haranchandra*, commentor of *Sushruta samhita* considered as fallopian tube.

स्त्रीणांपित्तपक्वाशयोर्मध्येगर्भाशयोऽष्टमः ॥

(अ.स.शा. ५/४६)^[1]

Women possess an extra *Ashaya* called *Garbhashya*, which supports and bear growing fetus.

POSITION OF GARBHASHYA

- स्त्रीणान्तुवस्तिपार्श्वगतो गर्भाशयः सन्निकृष्टः ॥ (सु.चि. ७/१४)^[2]
- भगस्याधः स्त्रियाः वस्तिरुर्ध्वं गर्भाशयः स्थितः । गर्भाशयश्च वस्तिश्च महास्रोतः समाश्रितौ ॥
(सु.श. ७/३३/ डल्हन)
- पित्तपक्वाशयोर्मध्येगर्भाशयो ॥ (अ.स.शा. ५/४६)^[3]
- तेषामधस्ताद्विपुलस्रोतः कुण्डलसंस्थितम् । जरायुणापरीवीतंसगर्भस्य ॥ (का. स.शा. ६-७)^[4]

Garbhashya is closely situated posterior to the *Vasti* (urinary bladder) in between the *Pittashya* and *Pakwashya* and below *Vipulsrotsa Kundla* which is covered by *Jarayu* (peritoneum).

1. Anterior *Vasti* (urinary bladder)
2. Posterior *Pakawashya* (rectum)
3. Superior *Vipulsrotsa kundla* (coils of small intestine)
4. Inferior-Third *Avarta* of *Yoni* (muscular connective layers of vault of vagina). *Garbhashya* is attached to the third *Avarta* of *Yoni*.

UTERUS

According to modern science, the uterus is a hollow pyriform or pear shaped muscular organ situated in the pelvis between the bladder in front and the rectum behind.^[5]

The description of position of *Garbhashya* in *Ayurveda* is very much similar to modern texts.

SHAPE OF *GARBHASHYA*

यथा रोहितमत्स्यस्यमुखं भवति रूपतः ।

(सु.श. ५/४४)¹

तत्संस्थानमिति अल्पमुखामन्तर्महासुषिरामित्यर्थः ॥

(सु.श. ५/४३ डल्हन)^[6,7]

Rohit Matsya Aakriti – Inverted fish shape uterus with the mouth facing downwards (cervix) and broad tail end upwards fundus)

Alpamukha- Antra Maha Sushira –Small entry (cervical os) leading to wide space (uterine cavity)

Garbha- adhara, Garbha- ashaya- Where the fertilized ovum gets implanted and get nutrition through it i.e Endometrium is called *Garbhashya* or *Garbha Adhara*.

According to *Chakarpanidutta* the shape of *Garbhashya* is resemble with *Khusdra tumbi phala* which is having its mouth downwards and its shape is somewhat flattened. (*Ch.S.Sh. Chakrapanidutta* 3/5.^[8]

The Similarity of Uterus with the mouth of *Rohita Fish* might have been given probably due to two reason:

1. Similarity in shape, as both are triangular in shape and hollow inside.
2. The lips of fish are fleshy and hanging; giving appearance of a rounded soft structure, which resembles cervix of uterus.

Measurements and parts of uterus

The uterus measures about 8cm long, 5 cm wide at the fundus and its walls are about 1.25 cm thick in nulliparous. Its weight varies from 50-80 gm. It has got following parts: Body or corpus The body is further divided into fundus- The part which lies above the openings of the uterine tubes. The body is triangular and lies between the openings of tubes and isthmus.

Isthmus –Isthmus is a constricted part measuring about 0.5 cm, situated between the body and the cervix.

Cervix or Neck – Cervix is a cylindrical in shape and measures about 2.5 cm.

It is separated in two parts

- a) Supravaginal portion- the part lying above the vagina.
- b) Vaginal portion – the part which lies within the vagina.

MUSCLES OF UTERUS AND CERVIX^[9]

Women possess twenty extra *Peshis* in female, ten in breasts. i.e. five in each breast and ten in *Apatyamarga*. These are divided in following manner:

Four in *Apatyapatha* i.e. two spreading inside and two situated in orifice in circular fashion.

Three in *Garbhashidra* which are responsible for entry of *shukra* and exertion of *artva*.

Three are covering internally situated *phala* (*garbhashya*) which is analogous to the *peshis* of male. (Su.sh.5/41, Bh.Pr.pu.3/147)

Peshis in classics	Muscles in modern texts
1. Two circular peshis on opening of the apatyapatha	Sphincter of vagina or perineal body (external and internal sphincter)
2. Two prasrita peshis on inner side of apatyapatha	Two muscular layer of vaginal canal (anterior and posterior)
3. Three peshis situated in garbhashidra	Cardinal ligament, uterocervical cervical fascia Or fundus, corpus, isthmus ligament, pubo-
4. Three Shukra artva parveshni	For entry of sperm -1 (cervix uteri) For menstruation /ovum-2 (both fallopian tubes)
5. Analogous to penis-1 to scrotum-2	Clitoris Labia majora

BLOOD SUPPLY OF UTERUS AND CERVIX

In *Ayurveda* female possess four arteries, two for formation of *artva* (menstrual blood) and two for its exertion. (A. S. SH.6/32)

In *Sushruta Sharira sthana*, there are two roots of *Artvavahi srota*. i.e. *Garbhashya* and *Aartvavaahi dhamnis*. These *dhamnis* may be major uterine vessels (Su.S.SH.9/12)

Arterial supply

Mainly by uterine artery directly from anterior division of internal iliac artery. Partially by ovarian and vaginal arteries.

Venous supply

The venous channel corresponds to the arterial course and drain into internal iliac veins.

PROBABLE REFERENCE OF CERVIX (*GARBHASHYA DWARA MUKHA*) IN *AYURVEDIC* TEXTS

As previously we can discussed the word yoni in *Ayurvedic* classics, refers to whole female reproductive system or individual organ.

The reference which indicate yoni as cervix described below:

<i>Garbhashya Dwara Mukha</i>	(अ. स. उ. ३८/४१इन्दुटीका) ^[10]
<i>Yonimukha</i>	(सु. श. ३/१०) ^[11]
<i>Garbha Chidra</i>	(सु. श. ५/३९) ^[12]
<i>Raktapatha</i>	(सु. श. ५/१०) ^[13]
<i>Apara Mukha</i>	(का. स. शा. ५/३०) ^[14]
<i>Garbhavartma Randra</i>	(शा. स. पु. ५/४४) ^[15]
<i>Garbha Marga</i>	(अ. स. श. ५/९१) ^[16]

मासेनोपचितकालेधमनीभ्यांतदार्तवं। ईषतकृष्णविवर्णचवायुयोनिमुखंनयेत्॥ (सु. श. ३/१०)^[17]

Acharya Sushruta while explaining the physiology of menstruation had described, collected blood by *dhamni* during the period of one month is expelled through *Yoni mukha* (cervix) with the help of *vayu*.

So we can assume *Yoni mukha* is cervical os, which gets open to expel the menstrual blood from uterine cavity.

नियतं दिवसेऽतीते संकुच्यम्बुजं यथा। ऋतौ व्यतीतेनार्यस्तु योनिः संव्रियते तथा॥ (सु. स. श. ३/९)^[18]

Acharya Sushruta explain conception can occur during *Ritukala* because just like the closure of lotus flower after sunset, the *Yoni* also gets constricted after *Ritu kala*.

ऋतावतीते योनिः सा शुक्रं नान्तः प्रतिच्छति॥ (अ. स. श. १/४२)^[19]

Same description is also given by *Vagbhatta* and he stated that after *Ritukala*, the *Yoni* does not accept *Shukra*, due to constriction of *Yoni Mukha*.

Hence we can assumed that, the closure of *Yoni mukha* means the closure of cervix. In modern science it is also accepted that the ciliary movement of cervix helps for ascending

sperms upwards.

रक्तवहं च (सु. श. ५/१०) [20]

Sushruta while describing *Vahaya Srota*, one *Raktavaha Srota* mentioned, which probably indicate cervix, through which menstrual blood flow.

रक्तपथश्च..... (अ.स. श. ६/१९) [21]

Vagbhata while explaining *Vahya Srota*, three additional *srota* explained in *stree*, *raktapatha* is one of them, which probably simulate cervical os through which menstrual blood flows.

योनौ गर्भाशयद्वारमुखेरजोमार्गनिरोधिनी गर्भाशयद्वारसंवृतिकरी।..... (अ. स. उ. ३८/४१ इन्दुटीका) [22]

Acharya Indu has described *garbasha dwara mukha* which represents cervical os while explaining *karnini yoni vyapada*.

..... गर्भछिद्रसंश्रितास्तिस्त्र..... (सु. श. ५/३९) [23]

Sushruta while explaining the *extrapeshi* (muscles) in female described that, three *Peshi* are present around *Garbha chidra* which resembles external os of cervix.

..... स्तनयोगर्भवतर्मनःरन्ध्र (शा.स. पु. ५/४४) [24]

Sharngdhara explained three other *Randra* (orifice) in *stree*, two are in breast and one is *Garbhavartma Randhra*, which assume as external orifice of cervix.

अव्यावृते स्त्रिया गर्भे विवृते चापरामुखे । (का.स.शा. ५/३०) [25]

The women having normally situated fetus, dilatation of *Apara Mukha* (cervix uteri) and presence of *Grahi Shoola* is very much ready to deliver fetus. In this text *apramukha* is assumed as cervical os. But in other references *Apara* assumed as placenta.

..... तिस्रो गर्भमार्गाश्चिया... ॥ (अ.स.श. ५/९१) [26]

Vagbhata while explaining extra *Peshis* in female, three *Peshis* are present on *Garbha marga*

which indirectly indicate the passage through which fetus expelled out, it can be assumed as cervical os.

DISCUSSION

Garbhashya is one of the extra *Ashaya* present in female explained by almost all *Acharyas*. It is also called *Garbha –Adhara*, which provide seat and nutrition of growing embryo. It can be correlated with the uterus. The position of *Garbhashya* in between *Pittashya* (small intestine) and *Pakwashya* (large intestine or rectum) *Basti* (urinary bladder) in front and covered by *Jarayu* (peritoneal fold). As per modern science uterus lies in between bladder and rectum. These reference shows that our *Acharyas* also describe minute structure of organ. The shape of *Garbhashya* is like the *Rohit matsya akara*, while *Dalhana* said that *Garbhashya* is *Alpamukha - antha* (narrow at end. i.e. cervical os) and *Mahasushir* means wide cavity or hollow organ having space inside. Uterus is also wider in above in the form of fundus and it has constricted lower part in the form of cervix. This shows the micro-observation of *Acharya* at that era are appropriate though they did not have proper tools for study. As per the role of *Artvavaha srotsa* described by *Acharya Sushruta* in *sharira sthana*, may be uterine vessels. Because in *Viddhta* (injury) of *Artvavaha srotsa* cause *Vandyatva*, *Maithuna -asahishnuta*, *Artvanasha*. Injury of uterine vessels may have major role in menstruation, development of foetus and sometime may leads to infertility. *Garbhashya dwara mukha*, *Garbhashidra*, *Randhra*, *Yonimukha* described in various *samhitas* correlate with cervix uteri or cervix or cervical os. *Aparamukha* can be assumed as external os or cervical os which is described in *Kashyapa samhita* in the reference of *Grahishoola*. In other reference *Apara* is placenta, but *Aparamukha* is best correlate with cervical os, because at the time of contraction during labour cervical os dilate as well as placenta is also at the level of cervical os during labour.

CONCLUSION

The knowledge of *Stree -sharira* is necessary to find appropriate pathogenesis and treatment of gynaecological as well as obstetrical disorder. There is scattered description of *Garbhashya* and *garbhashya dwara mukha* in different *Samhitas*. In this study I had tried to collect maximum reference regarding *Garbhashya* and its relation to modern science. Thus this overall study shows that microscopic view of *Acharyas* at that time very much clear and accurate instead of having deficiency in resources for collection of knowledge.

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