

Conceptual Study of Uterine Leiomyoma through Ayurvedic Aspect

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ABSTRACT

Uterine myoma/ fibroid is the most commonly seen benign gynaecological tumor. It mostly occurs in women during the reproductive age at about 20% incidence. Incidence of uterine myoma increases with age and its occurrence is rare before menarche. Uterine myoma are commonly seen in nulliparous women or in those with one child infertility. The etiology of uterine fibroid is still obscure but somatic mutation in myometrial cell causes uncontrolled proliferative of cells. Fibroid is typically estrogen dependent benign tumor with symptoms such as menorrhagia, metrorrhagia, pelvic discomfort and altered reproductive function. In Ayurvedic classical text, all the gynaecological disorders are mentioned under the 'yonivyapada' which can be associated with anatomical and functional abnormality of female reproductive system. Uterine myoma associated symptoms and sign can be correlated with 'granthi' which is characterised by raised glandular hard swelling in body tissue.

KEYWORDS - Uterine myoma, yonivyapada, somatic mutation, estrogen dependent, granthi.

I. INTRODUCTION

Leiomyoma or fibroid is the most common benign tumor of the uterus and it is commonly seen benign solid tumor in female. The tumor is composed of muscle tissue with variable amount of fibrous connective tissue so called as uterine leiomyoma, myoma or fibromyoma. It is present in 20% of women in reproductive age and incidence increases with age. Most of them about 50% of them are asymptomatic. Fortunately symptomatic fibroid seen in only 3% of patients. Fibroids are frequently multiple and often the number is between 5 to 30. The tumor having the

spherical shape with their surface can be lobulated. It is surrounded by pseudocapsule which is composed of normal uterine wall. The incidence of fibroid is highest between 35 -45 years. In ayurvedic text it is mentioned as 'grathanatgranthi' that is raised glandular hard swelling or cyst is appeared due to loculation of local body humors.

DEFINITION-

- Fibromyoma - It is non-cancerous growth in uterus that can develop during women's childbearing years of life.
- Leiomyoma or uterine myoma- It is also known as uterine fibroid. It is benign smooth muscle tumor that very rarely becomes cancer (0.1%).

AETIOLOGY^[2]

Age- Uterine myoma are rare before the age of 20 years and incidence increases to 40% over the age of 40 years. The common symptoms appears in between age of 35 -45 years but the microscopic form of fibroid may exist before the age of 30 years.
Parity- Uterine leiomyoma are most common seen in nulliparous women or with those having one child infertility. It is not known whether infertility causes leiomyoma or vice versa, both conditions commonly coexist.

Racial and genetic factors- The women of certain race such as African are especially prone to have uterine fibroid. Familial incidence is also common in prevalence of fibroid.

Ovarian factors- It is seen as excessive oestrogen stimulation causes leiomyoma however oestrogen and progesterone both may cause them to increase in size of fibroid.

Risk factors- Uterine leiomyoma having increased risk with nulliparity, obesity, hyperestrogenic state

and black women whereas lowers the incidence in multiparty and smoking.

Associated diseases- Uterine leiomyoma are significantly associated with follicular cyst of ovary, endometrial hyperplasia, endometrial carcinoma and endometriosis.

TYPES - According to anatomical location of fibroid, position of their origin and by the direction in which they grow following classification is done.^[1]

1) Body (uterine body) 2) cervix

A) Interstitial or intramural- It is found at 75% of incidence of uterine fibroids.

B) Subperitoneal or subserous- When the intramural fibroid is pushed outwards towards the peritoneal cavity and covered by peritoneum partially or completely it become subperitoneal or subserous fibroid. Sometimes the intramural fibroid may be pushed in between the broad ligament. Incidence is about 15%.

C) Submucous- When the intramural fibroid is pushed towards the uterine cavity and located underneath the endometrium it is known as submucous fibroid. Due to submucous fibroid uterine cavity becomes irregular in nature. Incidence is about 5%.

2) Cervical fibroid- Incidence of this fibroid is rare at 1-2%. A cervical leiomyoma is single and it is either interstitial or subserous in position and having rare possibility to submucous or polypoidal.

In classical ayurvedic texts, classification of granthi is given as follows-^[3]

- **Vatajgranthi-** Stretching, pricking sensation and hard to feel.
- **Pittajgranthi-** Burning and sucking in nature, prone to suppuration.
- **Kaphajgranthi-** Mild pain and excessive itching.
- **Medojgranthi-** Smooth in consistency and on bursting oily or fatty secretion.

Diagrammatic representation of Uterine fibroid



- **Sirajgranthi-** Raised, circular, not painful and deeply situated.

SYMPTOMS-^[1,2]

Fortunately, most of fibroids about 75 % are asymptomatic. They are accidentally discovered by doctor during routine check up or during laparoscopy or laprotomy. Symptoms are related to site of fibroid than size of fibroid.

1) Menorrhagia- It is classical symptom of fibroid and most commonly seen as 30% in incidence. It is having increased blood loss at normally interval of menstrual cycle which is gradual and progressive in nature. The nature of bleeding may be normal or prolonged having severe bleeding on second or third day of menstrual cycle.

2) Metrorrhagia or irregular menstrual bleeding is also commonly seen in uterine fibroid.

3) Dysmenorrhea- The congestive type of dysmenorrhea may be present having correlation with pelvic congestion or endometriosis. Spasmodic dysmenorrhea is common in patients having submucous tumor which triggers expulsive uterine contractions.

4) Pressure symptoms- A fibroid can achieve the size of 14 weeks pregnancy or more, the women may be conscious of swelling of abdomen or having sensation of weight in pelvis. A fibroid from posterior wall may produce constipation, dysuria or even retention of urine.

5) Pregnancy related problems- Due to uterine leiomyoma which can have negative effects on pregnancy such as abortion, preterm labour and intrauterine growth restrictions are high. Labour dystocia and post partum hemorrhage is also commonly seen.

PATHOPHYSIOLOGY^[1]

According to modern text, etiology of fibroid is unclear as it arises from neoplastic single smooth muscle cell of myometrium. The following theories are put forward-

A) Chromosomal Abnormality- In 40% of uterine leiomyoma, varying type of chromosomal abnormality (rearrangements or deletion) is commonly seen. It is said that somatic mutations in myometrial cells also cause uncontrolled proliferation of cells.

B) Polypeptide growth factor- Insulin like growth factor-1 (IGF-1), Epidermal growth factor (EGF) which triggers the growth of uterine leiomyoma through estrogen.

Growth of leiomyoma-

As it is an estrogen dependent tumor and estrogen and progesterone are responsible for growth of fibroid as

- During childbearing age , growth of fibroid is potentially limited.
- Growth is rapidly increased during pregnancy and among the pill users(high dose pills)
- Before menarche and after menopause, no growth seen as estrogen dependence.
- Myometrium contains more estrogen receptors .

II. REVIEW OF LITERATURE-

Ayurveda is a ancient science of medication dealing with eradication of root cause of disease. In ayurvedic science for any disease to occur preliminary factors are dosha-

dushyacoexistence and sthanavaigunya ,srotodushti(localized improper body channels) must be present simultaneously. Ayurveda has its own principles of diagnosis and treatment modalities. For any disease properties and qualities of dosha, site of manifestation, etiological factors and diagnostic and therapeutic methods are quoted with description. Fibroid is characterized by benign tumor made of fibres or fibrous tissue in the wall of uterus which is hard glandular swelling .In ayurvedic classical text ,uterinemyoma or leiomyoma can be correlated with 'granthi'. In classical literature it is mentioned that due to vitiated vata, pitta and kaphadoshacausing dysfunction in body and give rise to circular, raised, knotted and glandular swelling is known as ' granthi '.

In ayurvedic texts, classification, etiopathogenesis, clinical features and treatment of granthimentioned. For formation of any benign tumor or growth in body, vata is a predominance doshawhich is vitiated, disrupting the normal functioning of vata and triggered by vitiated pitta and kaphadoshaleads to dysfunction of rakta, mansa and kaphayuktamedadhatuin body and forms granthi in tissue. When granthiis presented in garbhashaya that is female reproductive system cause artavavahasrotasdusthiand lead to anatomical and physiological disturbances in normal functioning of female reproductive system. Symptoms seen are irregular menstruation, menorrhagia, metrorrhagia, dysmenorrhea due vata predominance pitta kaphadosha disturbances. ^[3]

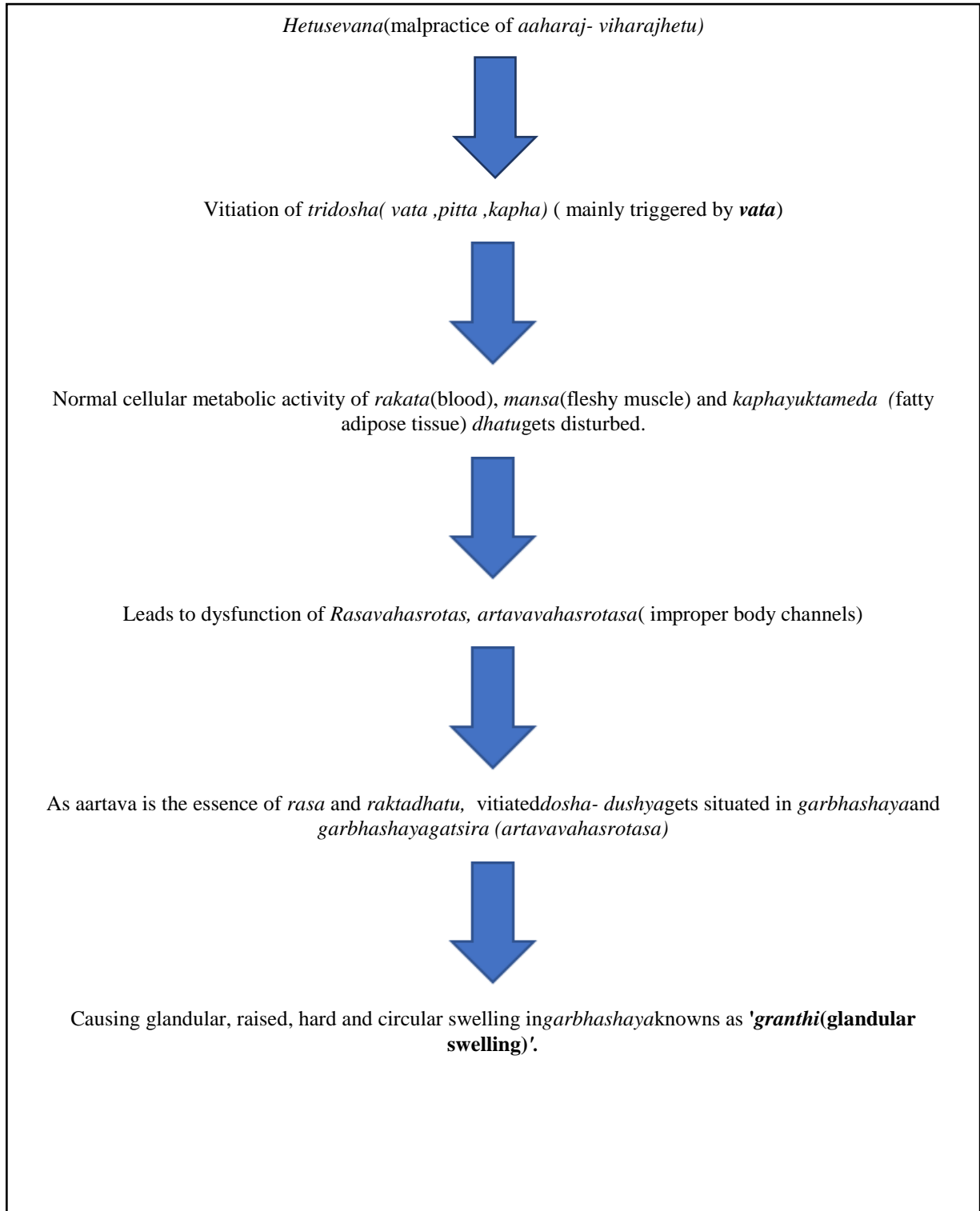
SAMPRAPTI-GHATAK

- Dosha- vata ,pitta, kapha(vatapredominance)
- Dushya- rakta, mansa, kaphayuktameda
- Sthanasanshraya- Garbhashaya
- Srotasodushti- Rasavahasrotas, artavavahasrotas

SAMPRAPTI-

MANAGEMENT- In modern literature treatment of fibroid is depends upon the severity of fibroid.

1) **Asymptomatic fibroid-** no treatment required.



2) Symptomatic-

- **Medical-** To minimise the blood loss and to reduce the size of fibroid following choice of drugs are commonly used.
- ★ Antiprogestosterone (mifepristone)
- ★ Danazol
- ★ Proglanndinsynthetase inhibitors
- ★ Tranexamic acid
- ★ Non Steroidal anti inflammatory drugs
- **Surgical** - Myomectomy or Endoscopic surgery
- In classical ayurvedic literature, **granthi** treatment is mentioned with elaboration in classical ayurvedic literature. The principle included are^[3]
- **Medical-**
 - ✓ Shophaghnakriya(anti- inflammatory treatment)
 - ✓ Snehapana and vatanulomana
 - ✓ Medohara and chhedanadravyaprayoga
 - ✓ Vatakaphaharadravya
 - ✓ Lekhana and raktaprasadanadravya
 - ✓ Panchkarma treatment (vamana, virechana, basti, raktamokshana and nasya)
- **Surgical-Shastra**, Kshara, Agneekarma

III. CONCLUSION

Uterine myoma is benign gynaecological tumor with prevalence highest during 35- 45 year of age. Incidence of uterine fibroid is 20% in child bearing age. Mostly 50% of those fibroid are asymptomatic. Its occurrence is rare before

menarche and its shows estrogen dependency. Symptoms are irregular menstruation, heavy bleeding, disturbed reproductive function. According to ayurveda, it is vata predominance disease located in female reproductive system leads to its dysfunction at anatomical and physiological levels. With ayurvedic principles of pathophysiology and treatment modalities, our indian ancient medical science proves its effectiveness in conditions of uterine myoma.

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