



Review of uterine fibroid with special reference to Grandhi in Ayurveda

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Abstract

Uterine fibroids are the commonest benign tumours of the uterus as well as in the female body. It is a benign tumour of the smooth muscle of the uterus. It is otherwise known as myomas, fibromyomas or leiomyomas. Prevalence rate of this tumour ranging from 20 to 50% depends upon ethnicity, age and other factors . The exact cause of uterine fibroid is unknown. Most of the fibroids are asymptomatic and could be discovered out during gynaecological examination or accidentally while doing Ultrasonography. The symptoms may include menstrual disturbances and pressure symptoms. Uterine fibroids cannot be directly correlated with any diseases mentioned in Ayurvedic classics. According to Ayurveda descriptions of grandhi is similar to that of tumour, but specific description of grandhi related to reproductive organ is not available. When going through the review of etiopathogenesis and symptomatology as per modern sciences, uterine fibroids can be considered as mamsa vridhijanya vikara and is correlated to Mamsa Granthi.

Keywords: Uterine fibroids, Fibromyoma, Leiomyoma, Grandhi, Mamsagrandhi.

Introduction

Uterine fibroids are the commonest benign tumours of the uterus as well as in the female body. These tumours arise from the uterine myometrium and consist of varying proportion of smooth muscle and fibroblasts¹. It is seen during reproductive period of a woman. Prevalence rate of this tumour ranging from 20 to 50% depends upon ethnicity, age and other factors. 62% of premenopausal women were noted to have fibroids in their wombs². These are accompanied by infertility, miscarriage and early onset of labour. According to WHO 2% of miscarriage was associated with fibroids and 1.8% of the infertilities are due to fibroids.

Incidence

It has been estimated that at least 20% of women at the age of 30 have got fibroid in their wombs. Most of them (50%) remain asymptomatic³. Fibroids are rare before the age of 20 and they most commonly cause symptoms between the age of 35 and 45 years. They are more common in nulliparous or relatively infertile women⁴. It is an estrogen hormone dependent tumour, so that myomas are very rarely found before puberty, and they generally cease to grow and get atrophied after menopause⁵.

Etiology.

The exact cause etiology of uterine myomas is not definitely known. But there are so many risk factors are therefor the formation and growth of fibroid. Clonality studies using the homozygosity of glucose-6- phosphate dehydrogenase forms show that multiple tumours in the same uterus are derived from individual myometrial cells rather than occurring through a metastatic process⁶.

Causes of uterine fibroid ⁷

1. Age – It is Rare before 20 years and most commonly found after 35 years.
2. Parity- Commonly seen in nulliparous. . Reproductive factors also influence the risk of fibroids, with a reduction in incidence with increasing parity. The prolonged use of contraceptive pills during the period of teenage also increases the chance of occurrence of fibroid.
3. Racial- African, American ethnicity associated with 3-9 times more prone than Asian. Genetic - plays very important role in fibroid development.
4. Hormones – Oestrogen , growth hormone and placental lactogen may effect the growth of the fibroid.
5. Environmental factors also influence the risk of fibroid development. Independent of body mass index, smoking appears to decrease the risk of fibroid development⁸

The risk factors of Uterine fibroids⁹

Increased risk	Decreased risk
Age more than 40	Increased parity
Menarche at a younger age (below 10)	Late menarche
Family history of Uterine fibroids	Smoking
Nulliparity	Use of oral contraceptives
Obesity	

More than 50% uterine fibroids are asymptomatic and can be discovered on vaginal examination or by Ultrasound. Fibroids which are rarely associated with mortality, but which cause significant morbidity and have an adverse effect on quality of life¹⁰.

Classification

It can be broadly divided into two types

1. Uterine body

2. Cervix

Uterine body

Mostly the Fibroids are located in the body of uterus. This can be again divided into three types according to their relationship to the peritoneal coat and to the endometrium.

1. Intramural (75%) - fibroids lie within the uterine wall separated from the adjacent normal myometrium by a thin layer of connective tissue, which forms the false capsule¹¹
2. Subserous (15%) - Fibroids grow towards the peritoneal cavity or between the layers of broad ligaments. When completely covered by peritoneum it usually attains a pedicle. They are called as pedunculated subserous fibroids. The subserosal fibroid may be pushed out in between the layers of broad ligament and is called as broad ligament fibroid¹².
3. Submucous (5%) - These are less common type of fibroid. Here the fibroids grow towards the uterine cavity and covered by endometrium. They can make the uterine cavity irregular and distorted¹².

Cervical fibroid¹³ - These are relatively uncommon and they are usually single.

Symptoms

The majority of fibroids are asymptomatic and the symptoms are depend upon the site and size of the fibroid¹⁴.

Menstrual disturbances

The common complaint is menorrhagia which is gradually increase with successive cycles. The causes of menorrhagia due to myomas are : increased surface area of the uterine cavity, increased vascularity and congestion of the uterus¹⁵. Along with this some other explanations are : "compression of veins by the tumour with consequent dilatation and engorgement of venous plexuses in the endometrium and myometrium, and interference with uterine contractions which are alleged to control the blood flow through the uterine wall¹⁶.

Pain

Pain in the form of low back pain or pelvic pain or dysmenorrhoea present in symptomatic conditions. Congestive dysmenorrhoea may occur because of the associated pelvic congestion. Acute pain is seen when a fibroid is complicated by torsion, haemorrhage, and red degeneration. Pain in a rapidly growing fibroid in an elderly woman may be due to sarcoma¹⁷.

Pressure symptoms

The bulky uterus in case of fibroid uterus may put pressure on adjacent organs leading to myriad of symptoms. This also depends upon the size and site of the fibroid. Urinary frequency occurs due to the mechanical irritation and reduced capacity of the bladder. Due to the pressure effects on veins oedema or varicosities on the legs may arise. This is very rare.

Diagnosis

Bimanual examination is useful to detect small fibroids and size and contour of uterus as well as the presence of adenexal mass. Ultrasonography is the diagnostic tool for the confirmation of uterine fibroid.

Grandhi

The term grandhi is used for a tumour, lump or nodule and it develops due to vitiation of doshas and dushyas and accumulation at one place. The character of grandhi is glandular or nodular swelling “ग्रन्थि संज्ञया ग्रन्थ्याकारत्वं दर्शयति¹⁸. In madhukosa commentary of Madhava nidana it is explained that the name grandhi is given due to its specific appearance of knotty, hard and rough nature¹⁹.

Nidana and Samprapthi of Grandhi²⁰

According to Susrutacharaya grandhi develops due to vitiation of vata & kapha doshas which then vitiates dhatus such as mamsa, rakta and medas and produce vritta, unnata, vigradhitha sophha. Vata is responsible for the faulty division of cells and kapha is helpful for the growth. Affected dhathu is mamsa i.e., muscular tissue and tumours develop when kapha enters into the mamsa dhathu and mamsavaha srotas. As per the views of Vagbhatacharya the predominant dosha in the etiopathogenesis of grandhi is kapha and also included amongst the disorders of mamsa and medas.

Nidana

Nidana can be said as the cause of diseases. Here samanya yoni roga nidana as well as pitta kapha prakopa karanas are to be taken into account. Various reasons like katu amla rasas, vidahi anna, abhishyanthi, guru snigda anna, sleeping in day time, indigestion etc can be considered as the factors that cause dosha vitiation. The involvement of causes such as beeja dosha (hereditary factor) and daiva (genetic factor) as said in yoniroga nidana also play important role in the development of this disease. Increased emotional factors also cause agni dushti as a result improper indigestion and derangement in proper dhatu formation occurs.

Roopa

Manifestation of disease depends on what extend the dosha is vitiated. Here due to nidana, guru, manda, hima, snigda, sandra and sthira properties of kapha is increasing. If kapha dushti is prevalent then grandhi which is kadina, sthira and without any artava abnormality may be manifested. In case where there is excess vitiation of vata there occurs increase in chala and suksma properties leading to painful menstruation with symptoms like constipation, urinary complaints, low back ache etc.

Samprapthi

Due to the above said nidanas vitiation of pitta kapha doshas occur which leads to jadaragni mandya. This causes agnimandya at dhatwagni level especially, rakta dhatwagni causing vitiation of mamsa dhatu which in turn leads to vitiation of medas in garbhasaya. This vitiated mamsa and medo dhatu cause avarana of vata leading to formation of a kathina vivarna sophha (grandhi) in garbhasaya. ie; vata causes grathanata of mamsa dhatu in garbhasaya causing formation of mamsa grandhi. Garbhasaya is the seat of apana vata and for the normal functioning of female reproductive cycle its normalcy along with samana is needed. The developing grandhi hinders the normal movement of vata, resulting in its further vitiation. The vitiated vata cause artava vaha srotodushti and atipravrtti of rajas occurs.

Mamsa grandhi

Nirukthi of grandhi explained in Amarakosa is “ग्रन्थि कौटिल्ये” that means any that create unevenness to an even surface. In Ayurveda sastra, nidana is meant by cause of the disease and separate nidana for mamsagrandhi is not mentioned in any of the classics. Samanya yoniroga nidanas such as bejadushti (hereditary factor) and daiva (genetic factor) play an important role for the formation of garbhasayasritha grandhi. Various causes to increase Pitta and Kapha such as excessive use of katu amla rasas, vidahi, abhishyanthi, guru and snigda ahara, sleeping in day time, etc can also be considered as the causative factors for garbhasaya grandhi.

Due to the above mentioned nidanas, vitiation of doshas such as pitta and kapha occur which leads to jadaragni mandya which then affects the dhatwagni level especially, raktha dhatwagni. This vitiated raktha dhatwagni causes vitiation of mamsa dhatu which in turn leads to vitiation of medas in garbhasaya. This vitiated mamsa and medo dhatu cause avarana of vata leading to formation of a hard and rough knotty swelling (granthi) in garbhasaya. Garbhasaya is the site of apanavata and its normalcy is essential for the normal functioning of reproductive organs especially for the normal flow of menstrual blood. The developing granthi hinders the normal movement of Vata and the vitiated Vata cause artava vaha srotodushti and atipravrtti of rajas occurs. One of the main symptom of Vata vitiation is pain so here also vitiation of apanavata causes krichrarthava ie. dysmenorrhoea. Mamsagrandhi when present in the Garbhasaya (uterus) may produce menstrual disturbances like menorrhagia, metrorrhagia, dysmenorrhoea along with infertility²¹.

Classification of Grandhi

Caraka ¹⁸	Susruta ²²	Vagbhata ^{23,24}	Bhela ²⁵	Sargdhara ²⁶
Vata	Vata	Vata	Vata	Vata
Pitta	Pitta	Pitta	Pitta	Pitta
Kapha	Kapha	Kapha	Kapha	Kapha

Medas	Medoja	Medas	Sira	Rakta
Sira	Sira	Sira	Snayu	Sira
Mamsa		Mamsa		Medas
		Asthii		Vrana
		Vrana		Asthi
		Rakta		Mamsa

Conclusion

Uterine fibroids are generally benign neoplasms, commonly encountered in gynaecological practice during reproductive period. The exact etiology of uterine fibroid is unknown. So many factors are responsible for their growth and development. Majority of uterine fibroids are asymptomatic and some fibroids may produce symptoms like menstrual disturbances, dysmenorrhoea, infertility and pressure symptoms. Symptoms depend upon the size, site and number of fibroids. Less than 0.1% of all fibroids are malignant. It can be diagnosed by means of bimanual examination and investigations like USG. Fibroids are one of the leading cause for hysterectomy. In Ayurvedic classics there is no direct description about fibroid. Due to the specific feature of glandular swelling of grandhi uterine fibroid may be considered as Grandhi and by etiopathogenesis and symptomatology of mamsagrandhi this benign uterine tumour can be correlated as mamsa grandhi. Vathakapha samana treatment as in the case of grandhi is effective in uterine fibroid.

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