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"GARBHASHAYA GRANTHI (UTERINE FIBROIDS): THE ROLE OF KANCHANARA GUGGULU AND LEKHANA DRAVYAS — A NARRATIVE REVIEW"

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ABSTRACT:

Background: Uterine fibroids are the most common benign tumours of the female genital tract and a leading cause of heavy menstrual bleeding, pelvic pressure, infertility and hysterectomy. Current medical therapies are mainly short-term or hormonally suppressive, and many women seek non-surgical, fertility-sparing alternatives. Ayurvedic practitioners commonly interpret fibroids as Garbhashaya granthi, a Kapha-Medas dominant encapsulated growth of the uterus, and treat them with Kanchanara guggulu and drugs with scraping (Lekhana) action. **Objective:** To review the classical basis for treating uterine fibroids as Granthi, to describe the rationale for Kanchanara guggulu and Lekhana dravyas, and to appraise the clinical and experimental evidence for these interventions. **Methods:** Classical texts (Sushruta Samhita, Charaka Samhita and Sharangadhara Samhita) were reviewed for descriptions of Granthi, Raktaja gulma, Lekhana drugs and Kanchanara guggulu. PubMed was searched for reviews, trials, case series and experimental studies on uterine fibroids, Ayurvedic management, Kanchanara guggulu and guggulsterone. Findings were synthesised narratively. **Results:** The Ayurvedic model of a slowly growing, firm, painless Kapha-Medas mass corresponds broadly to the clonal, extracellular matrix-rich and steroid-dependent leiomyoma. One randomised single-blind trial from Sri Lanka reported reduction of fibroid volume with one of two Ayurvedic regimens, while case series, case reports and a small pilot study of oral medicines with Uttara basti reported symptomatic improvement and shrinkage or disappearance of small fibroids. Experimental studies show that Kanchanara guggulu is chemically complex and suppresses PI3K/AKT/mTOR signalling in cancer cells, and that guggulsterone has anti-inflammatory and antiproliferative actions, but no study has examined leiomyoma cells directly. **Conclusion:** Kanchanara guggulu and Lekhana dravyas offer a coherent and biologically plausible strategy for small symptomatic fibroids, but the clinical evidence is preliminary. Controlled trials with standardised products, imaging-verified volume outcomes and safety monitoring are required.

KEYWORDS: Garbhashaya granthi, uterine leiomyoma, Kanchanara guggulu, Lekhana, Granthi, Uttara basti

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INTRODUCTION

Uterine fibroids, also termed leiomyomas or myomas, are the most common benign tumours of the uterus. They present with abnormal uterine bleeding, pelvic masses and pressure symptoms, pelvic pain, infertility and obstetric complications, and almost a third of affected women will request treatment because of symptoms[1,2]. By the age of 50 years an estimated 50% to 70% of women have fibroids, and the condition carries an enormous medical and economic burden[3]. Fibroids remain a leading indication for hysterectomy worldwide.

Management depends on the woman's age, symptoms, wish to preserve fertility, and the number, size and location of the fibroids[2]. Surgical options include hysteroscopic, laparoscopic and open myomectomy and hysterectomy, while minimally invasive procedures include uterine artery embolisation, magnetic resonance-guided focused ultrasound and radiofrequency ablation. Medical options include selective progesterone receptor modulators and oral gonadotropin-releasing hormone antagonists with hormonal add-back therapy[1,2]. A recent review in the Lancet highlighted important gaps in the evidence for all of these options, including a lack of head-to-head comparisons with standard care, scarce long-term data and inadequate attention to real-world patient and fibroid characteristics[1]. There is therefore continuing interest in conservative, low-cost and fertility-sparing approaches.

Ayurveda has no single classical term that corresponds exactly to the uterine fibroid. Contemporary Ayurvedic gynaecologists commonly use the term Garbhashaya granthi (literally, a knot-like growth of the uterus) and manage the condition on the principles laid down for Granthi and, in some presentations, Raktaja gulma[4–6]. Kanchanara guggulu, a classical compound formulation indicated for glandular swellings, together with drugs having Lekhana (scraping or depleting) action, forms the core of most published protocols[7,8]. This review summarises the classical rationale for this approach, links it to current knowledge of leiomyoma biology and critically appraises the available evidence.

METHODOLOGY

This narrative review was prepared in two parts. First, the classical texts of Ayurveda, namely Sushruta Samhita (Nidana sthana, chapter 11 and Chikitsa sthana, chapter 18), Charaka Samhita (Sutra sthana, chapter 4; Nidana sthana, chapter 3; Chikitsa sthana, chapters 5 and 30) and Sharangadhara Samhita (Purva khanda, chapter 4 and Madhyama khanda, chapter 7), were studied with their standard commentaries for descriptions of Granthi, Gulma, Lekhana drugs and Kanchanara guggulu[4,5,7]. Second, PubMed was searched for literature published up to October 2026 using combinations of the terms uterine fibroid, leiomyoma, Ayurveda, Ayurvedic, Granthi, Kanchanara guggulu, *Bauhinia variegata*, *Commiphora* and guggulsterone. Reviews, meta-analyses, randomised controlled trials, pilot studies, case series, case reports and experimental studies were considered. Every reference cited in this article was checked against its PubMed record for authors, title, journal, year, volume, pages and digital object identifier. Retracted publications identified during the search were excluded. The findings are synthesised narratively rather than statistically.

CURRENT UNDERSTANDING OF UTERINE FIBROIDS

1. Origin and growth

Genetic studies show that each fibroid is a monoclonal tumour arising from a single myometrial smooth-muscle cell. These early cytogenetic changes are not sufficient in themselves for tumour growth, and additional alterations in several signalling pathways are required, including those of steroid hormones, growth factors, transforming growth factor-beta (TGF-beta), Wnt/beta-catenin, retinoic acid, vitamin D and peroxisome proliferator-activated receptor gamma. Mitogen-activated protein kinase and Akt pathways appear to act as integrators of these signals[3]. Oestrogen and progesterone promote fibroid growth, and the clinical success of selective progesterone receptor modulators has drawn particular attention to progesterone signalling[2,6].

2. The extracellular matrix

A distinctive feature of leiomyomas is the accumulation of a large, rigid extracellular matrix rich in collagens, fibronectin, laminins and proteoglycans. TGF-beta and activin-A are key drivers of this fibrotic process, and the stiff matrix is thought to contribute to abnormal bleeding and pelvic pain[9]. Much of the bulk of a fibroid is therefore matrix rather than cells, and the authors of a major review proposed that the matrix itself should be a target of future therapy[9].

This observation is important for Ayurvedic interpretation, because classical descriptions of Granthi emphasise hardness, density and slow growth rather than rapid cellular proliferation.

3. Effect on fertility

Fibroids, particularly those that distort the uterine cavity, can impair endometrial function and receptivity and are associated with reduced fertility and adverse pregnancy outcomes. Their management in women who wish to conceive therefore requires careful balancing of the benefits of removal against the risks of surgery[6].

4. Vitamin D and modifiable factors

A meta-analysis of nine observational studies with 1,730 participants found significantly lower serum vitamin D concentrations in women with fibroids than in controls, although heterogeneity between studies was high[10]. A 2026 review in Endocrine Reviews concluded that women with sufficient vitamin D appear to have a reduced risk of fibroids, and that vitamin D has antiproliferative, pro-apoptotic and anti-angiogenic effects in fibroid models, but that randomised trials are still needed to confirm its therapeutic value[11]. These findings are relevant to integrative care, since Ayurvedic management of Granthi traditionally includes attention to diet, body weight and metabolic health.

CLASSICAL AYURVEDIC UNDERSTANDING

1. Granthi

Sushruta describes Granthi as a rounded, raised, knotty swelling produced when vitiated Vata, Pitta and Kapha, together with Mamsa (muscle tissue), Rakta (blood) and Medas (fat), become localised in a part of the body. He classifies Granthi into Vataja, Pittaja, Kaphaja, Medaja and Siraja types[4]. The Kaphaja and Medaja types are described as firm, heavy, slowly enlarging, relatively painless and cold to the touch. Granthi is listed together with Apachi, Arbuda and Galaganda as related swellings, and Arbuda is distinguished from Granthi by its larger size, deeper fixation and continuous growth[4]. Contemporary Ayurvedic writers interpret Granthi as a benign glandular or encapsulated swelling within a continuum that also includes chronic inflammation and malignant transformation[12].

The features of the typical intramural or subserosal fibroid, namely a well-circumscribed, firm, slowly growing, often painless mass composed of smooth muscle and dense matrix, correspond closely to the Kapha-Medas dominant Granthi. The term Garbhashaya granthi is therefore widely accepted as a working Ayurvedic diagnosis for uterine fibroids[8,13].

2. Raktaja gulma

Charaka describes Raktaja gulma as a form of Gulma (an abdominal mass) that occurs only in women, arising from menstrual blood obstructed by Vata during menstruation, after delivery or after miscarriage. The mass may be accompanied by amenorrhoea and symptoms that mimic pregnancy, and Charaka advises that it should be treated only after the period corresponding to a normal pregnancy has passed, so that pregnancy is excluded[5]. Some authors relate fibroids, particularly those associated with menstrual disturbance, to Raktaja gulma. Gulma, however, is a mobile, Vata-dominant mass, whereas fibroids are fixed and firm and fit Granthi better. In practice, both concepts lead to similar treatment principles of reducing Kapha and Medas, restoring the movement of Vata and removing obstruction in the reproductive channels.

3. Samprapti (pathogenesis)

The pathogenesis of Garbhashaya granthi may be summarised as follows. Kapha-aggravating diet and lifestyle, impaired digestive and tissue metabolism (Agni) and accumulation of improperly formed tissue (Ama and excess Medas) lead to vitiation of Kapha and Medas. Vata, obstructed in the pelvic channels (Artavavaha srotas), localises these vitiated elements in the uterine muscle (Mamsa), where they combine with Rakta to produce a firm, encapsulated mass[4,5]. Pitta involvement may add heavy bleeding, and Vata involvement may add pain. This model of a mass formed by accumulation and consolidation of tissue, rather than by rapid destructive growth, parallels the biomedical description of a matrix-rich, slowly growing benign tumour[3,9].

PRINCIPLES OF MANAGEMENT

The classical treatment of Granthi follows the general principle of Samprapti vighatana, that is, breaking the chain of pathogenesis. For Kaphaja and Medaja Granthi, Sushruta recommends purification, Lekhana measures, application of warm and penetrating pastes, and, if conservative measures fail, surgical excision, cauterisation or application of caustic alkali (Kshara)[4]. In modern Ayurvedic gynaecology these

principles are translated into four groups of interventions: oral formulations with Lekhana and Granthihara action, especially Kanchanara guggulu; drugs that regulate bleeding when menorrhagia is present; purification procedures such as Virechana (therapeutic purgation) and Basti, including Uttara basti (intrauterine instillation); and dietary and lifestyle modification to correct Kapha and Medas.

1. Lekhana dravyas

Lekhana is the action of drugs that dry up and scrape away excess tissue (Dhatu) and waste (Mala) from the body. Sharangadhara gives honey, warm water, Vacha and barley as examples[7]. Charaka lists a group of ten Lekhaniya drugs, namely Musta, Kushtha, Haridra, Daruharidra, Vacha, Ativisha, Katurohini, Chitraka, Chirabilva and Haimavati, in his classification of fifty therapeutic groups[5]. Guggulu, Triphala, Trikatu and Kanchanara are also regarded as having strong Lekhana and Kapha-Medas-reducing properties.

In biomedical terms, Lekhana may be interpreted as a combination of anti-inflammatory, antiproliferative, anti-fibrotic and metabolic actions that could, in principle, reduce cell growth and matrix deposition in a fibroid. No study has yet shown such an effect in human leiomyoma tissue.

2. Kanchanara guggulu

Kanchanara guggulu is described in Sharangadhara Samhita in the chapter on pills (Vati kalpana). It contains the bark of Kanchanara (*Bauhinia variegata*), the three myrobalans (Triphala), the three pungents (Trikatu: dry ginger, long pepper and black pepper), Varuna (*Crataeva nurvala*), and the aromatic spices cardamom, cinnamon and Tejapatra, combined with an equal quantity of purified Guggulu (the oleo-gum resin of *Commiphora wightii*)[7]. It is indicated for Galaganda (goitre), Gandamala and Apachi (lymphadenopathy), Granthi, Arbuda, Gulma, wounds and skin disorders. Ayurvedic physicians accordingly prescribe it for swellings in various organs, including the thyroid gland and lymph nodes[14].

CLINICAL EVIDENCE

1. Randomised and controlled studies

Only one randomised trial of Ayurvedic treatment for uterine fibroids was identified in PubMed. In this single-blind trial from Sri Lanka, 120 women with fibroids of at least 2 cm were randomly allocated equally to two Ayurvedic drug regimens or a control group for 12 weeks, followed by 12 weeks of follow-up[15]. The volume of the largest fibroid decreased significantly in one Ayurvedic arm but not in the other, while it increased significantly in the control group. Menstrual blood loss measured by the pictorial blood assessment chart remained stable in all groups, but symptom severity scores improved in both Ayurvedic arms compared with control, and health-related quality of life improved in both. Hepatic and renal safety parameters were monitored, and the authors concluded that both regimens were safe. The individual components of the regimens are not described in the abstract, so the specific contribution of Kanchanara guggulu or Lekhana drugs cannot be determined from this trial[15].

A pilot study from Varanasi compared Ayurvedic oral medicines combined with intrauterine enema (Uttara basti) using a medicated oil against the same oral medicines with plain sesame oil in 22 women (11 per group) for three months[16]. All women in the medicated-oil group reported symptomatic relief; two had complete resolution of their fibroids, one of three fibroids resolved completely in a third woman, five showed a reduction in size and one showed an increase. In the control group symptoms did not improve and fibroid size either increased or remained unchanged[16]. The very small sample, lack of reported randomisation and blinding, and absence of formal statistical comparison mean that these results are hypothesis-generating only.

2. Case series and case reports

An Ayurvedic case series on fibroids published in AYU explicitly treated the condition as Granthi and aimed at Samprapti vighatana[8]. Seven women with ultrasonographically confirmed fibroids received Kanchanara guggulu, Shigru guggulu and Haridra khanda, and after seven weeks their ultrasound reports showed absence of the fibroid[8]. The author concluded that these formulations were effective. Fibroid size and location, independent confirmation of imaging and longer follow-up are not reported in the abstract, and complete disappearance of fibroids within seven weeks is unusual; replication with blinded imaging is therefore essential.

A 2025 case report in this journal described a woman in her mid-forties with abnormal uterine bleeding, abdominal and back pain, two fundal fibroids of 1.6 cm

each, a cervical polyp measuring 3 by 2.4 cm and pelvic inflammatory disease, who had been advised hysterectomy[13]. She received Ayurvedic oral medicines with Uttara basti once in each cycle. After three months she was free of symptoms and the follow-up scan showed absence of the fibroids and polyp. Another case report described a woman with recurrent miscarriage attributed to a fibroid who received Virechana and Basti followed by oral medicines, conceived in the second month and delivered by elective caesarean section at term[17]. Such reports cannot establish efficacy.

3. Systematic review of traditional medicine

A systematic review of traditional medicine for uterine fibroids identified 21 case studies across Ayurveda, Unani, Siddha, homoeopathy, yoga, cupping and acupuncture[18]. The authors reported promising outcomes in reducing fibroid size and relieving symptoms without significant adverse effects, but acknowledged that conclusive evidence is lacking and called for clinical trials[18]. The reliance on case reports, which are subject to strong publication bias, limits the strength of these conclusions.

4. Kanchanara guggulu in other glandular enlargements

Kanchanara guggulu has been evaluated in other conditions that Ayurveda regards as Granthi-like swellings. In a randomised study of 46 patients with primary hypothyroidism inadequately controlled on levothyroxine, two 500 mg tablets of Kanchanara guggulu three times daily for 60 days produced improvements in body mass index, skin-fold thickness, quality of life and clinical scores, although a whole-system Ayurvedic protocol was superior for thyroid-stimulating hormone and several other outcomes[19]. In a small study of benign prostatic hyperplasia, 500 mg three times daily for 21 days was associated with improvement in the International Prostate Symptom Score[20]. These studies provide some information on dosage and short-term clinical use in adults, but they do not address effects on uterine tissue.

EXPERIMENTAL AND PHARMACOLOGICAL EVIDENCE

Kanchanara guggulu is chemically complex. Liquid chromatography-tandem mass spectrometry identified 2,579 compounds in the formulation, including derivatives of quercetin and kaempferol[14]. A 2026 study combined untargeted metabolomics with network pharmacology and found that over 1,000 metabolites of Kanchanara guggulu included 237 drug-like candidates sharing 50 targets with pathways relevant to triple-negative breast cancer, including PI3K/AKT/mTOR and HIF-1 signalling. The extract showed dose-dependent cytotoxicity, inhibited cell migration and reduced phosphorylated AKT and mTOR in MDA-MB-231 breast cancer cells[21]. Because the Akt pathway acts as a signal integrator in leiomyoma growth[3], these findings provide a plausible mechanistic link between Kanchanara guggulu and fibroid biology. This link is, however, inferred: breast cancer cells differ fundamentally from benign leiomyoma cells, and no study has yet tested the formulation on leiomyoma cells or animal models of fibroids.

Guggulsterone, the principal steroidal constituent of Guggulu, has been reviewed extensively. It shows antioxidant, anti-inflammatory and anticancer activities through modulation of nuclear factor kappa-B, JAK-STAT3, PI3K/Akt and mitogen-activated protein kinase pathways, and the available data suggest that it does not cause significant adverse effects after hepatic metabolism[22]. As with the formulation itself, direct evidence in leiomyoma is lacking. The overlap between the pathways modulated by guggulsterone and those involved in leiomyoma growth[3,9] nevertheless identifies clear hypotheses for laboratory testing.

DIET, LIFESTYLE AND INTEGRATIVE CONSIDERATIONS

Ayurvedic management of Garbhashaya granthi includes avoidance of heavy, oily, sweet and cold foods, daytime sleep and physical inactivity, all of which are considered to aggravate Kapha and Medas, together with regular exercise and weight control[4,5]. The association of low vitamin D with fibroids[10,11] suggests that assessment and correction of vitamin D status could be integrated with Ayurvedic care, although the benefit of supplementation remains unproven[11]. Women with heavy bleeding require assessment and correction of anaemia regardless of the treatment chosen.

DISCUSSION

This review shows that the Ayurvedic interpretation of uterine fibroids as Garbhashaya granthi is internally coherent and maps reasonably well onto current biology. The classical picture of a slowly growing,

firm, Kapha-Medas dominant mass corresponds to the clonal, steroid-dependent and matrix-rich leiomyoma[3,4,9]. Lekhana can be translated into testable actions such as inhibition of proliferation and matrix deposition.

The clinical evidence, however, is weak. One randomised trial of 120 women showed volume reduction with one of two Ayurvedic regimens, but the composition of the regimens is not clear from the published abstract and the trial was single-blind[15]. The remaining clinical evidence consists of one small pilot study[16], one case series[8], case reports[13,17] and a systematic review of mainly case reports[18]. Reports of complete disappearance of fibroids within a few weeks to months are striking and deserve rigorous confirmation, because spontaneous regression of fibroids is uncommon before menopause and ultrasonographic measurement is operator-dependent. The mechanistic evidence for Kanchanara guggulu and guggulsterone is derived from cancer cell lines rather than leiomyoma cells[21,22].

Several research priorities follow. First, trials should use standardised, chemically characterised Kanchanara guggulu prepared according to classical methods, with batch-level quality control. Second, the primary outcome should be fibroid volume measured by blinded ultrasonography or magnetic resonance imaging, with bleeding, symptom severity and quality of life as secondary outcomes. Third, trials should stratify by fibroid location, since submucosal fibroids behave differently from intramural and subserosal ones, and should include at least six months of follow-up. Fourth, safety monitoring should include liver and renal function and interaction with concurrent medications. Fifth, laboratory studies on human leiomyoma cells should test whether Kanchanara guggulu and Lekhana drugs reduce proliferation, extracellular matrix production and TGF-beta signalling. Finally, comparative trials against established medical therapy are needed[1].

From a clinical perspective, Kanchanara guggulu and Lekhana dravyas may reasonably be considered for women with small, symptomatic or asymptomatic intramural or subserosal fibroids who wish to avoid or postpone surgery, provided they are monitored with serial imaging and haemoglobin estimation. Rapid growth, postmenopausal enlargement, severe anaemia, acute pain, or submucosal fibroids causing heavy bleeding or infertility require gynaecological evaluation and, where appropriate, conventional treatment[1,2,6].

CONCLUSION

Garbhashaya granthi provides a useful Ayurvedic framework for uterine fibroids, and Kanchanara guggulu with Lekhana dravyas represents its central therapeutic strategy. The approach is biologically plausible and is supported by preliminary clinical reports, one randomised trial of Ayurvedic regimens and experimental data on related pathways. Well-designed, adequately powered and imaging-verified trials of standardised formulations are needed before these treatments can be recommended with confidence in integrative gynaecological practice.

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