

Adenomyosis: A Contemporary Clinical Review with Ayurvedic Perspectives on Etiopathogenesis and Management

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ABSTRACT

Adenomyosis - once regarded as a disease of multiparous women in the fifth decade, is increasingly recognized in younger women of reproductive age, with a prevalence of 20-35% in the general population and 20-65% among women undergoing hysterectomy, causing significant physical, psychological, reproductive and socioeconomic burden through menorrhagia, dysmenorrhoea, chronic pelvic pain and subfertility. This review summarizes its definition, etiopathogenesis, risk factors, classification, clinical features, diagnosis and management while integrating an Ayurvedic perspective, as adenomyosis has no direct one-to-one equivalent in classical texts. Modern theories implicate endometrial invagination, tissue injury and repair at the endo-myometrial junctional zone, altered steroidogenesis and chronic inflammatory-angiogenic changes; diagnosis relies mainly on transvaginal ultrasonography and MRI, with histopathology as the gold standard. Within Ayurveda, adenomyosis may be interpreted as a Yonivyapad-Upadrava with clinical and pathological features showing conceptual parallels with Asrigdara, Gulma and Granthi, rather than being equated directly with any single classical disease. A predominantly Vata-Pitta pathology with secondary chronic Kapha-Mamsa involvement can be considered, affecting Rasa, Rakta, Artava and Mamsa Dhatu and involving Artavavaha, Rasavaha and Raktavaha Srotas. The proposed Samprapti involves Dosha-Dushya Sammurchana, Srotosanga and subsequent Vimarga Gamana at the Yoni-Garbhashaya, accounting for abnormal uterine bleeding, dysmenorrhoea, pelvic pain and uterine enlargement. Management follows the principle of Samprapti Vighatana through individualized Shamana, Shodhana and Sthanika Chikitsa, supported by classical formulations with potential anti-inflammatory and antioxidant actions. An integrated modern and Ayurvedic understanding may provide a comprehensive framework for symptom control, disease management, fertility preservation and improved quality of life alongside modern gynaecological care.

Keywords: Adenomyosis; Yonivyapad Upadrava; Asrigdara; Gulma; Granthi; Samprapti; Apana Vata Anulomana; Uttarabasti.

INTRODUCTION

Adenomyosis was once believed to be a disease confined largely to multiparous women approaching the perimenopausal years. It is now, however, increasingly diagnosed in younger women of reproductive age,

making it a significant public health concern rather than a condition of incidental late-life discovery. Its prevalence is reported to range between 20% and 35% in the general female population, rising to 20-65% among women undergoing hysterectomy for benign indications. Through the cardinal manifestations of heavy and prolonged menstrual bleeding, progressive dysmenorrhoea, chronic pelvic pain, and impaired fertility, adenomyosis imposes a substantial physical, psychological, reproductive and socioeconomic burden on affected women.

This changing epidemiological profile highlights the need for greater clinical awareness, earlier diagnosis and fertility-preserving treatment strategies that extend beyond the traditionally definitive but fertility-ending option of hysterectomy. In this context, exploring adenomyosis through the lens of Ayurveda offers a broader understanding of its pathogenesis and provides holistic therapeutic interventions aimed at symptom control, disease modification, and improvement in overall quality of life.

Definition and etiopathogenesis of Adenomyosis

Adenomyosis is defined as the benign invasion of endometrium into the myometrium, producing a diffusely enlarged uterus with ectopic, non-neoplastic endometrial glands and stroma surrounded by hypertrophic and hyperplastic myometrium.¹ Its pathogenesis is multifactorial, involving basalis endometrial invagination through a disrupted endo-myometrial junctional zone (invagination theory), repetitive tissue injury and repair (TIAR), displaced Müllerian remnants, and metaplastic transformation of myometrial stem/progenitor cells.^{2,3} Risk factors include multiparity, early first delivery, early menarche, short menstrual cycles, and uterine trauma from caesarean section, D&C, MTP, hysteroscopy, manual placental removal and myomectomy.^{1,3,4} Genetic/epigenetic factors, local hyperestrogenism with aromatase overexpression, progesterone resistance, inflammation, angiogenesis and oxidative stress contribute to disease progression; obesity and psychological stress may also contribute.^{2,5} According to Molitor's criteria, adenomyosis is graded by depth of myometrial invasion: Grade I-inner one-third, Grade II-middle one-third, and Grade III-outer one-third.¹³ Clinically, it may be diffuse or focal (adenomyoma) and superficial or deep.^{5,13}

Clinical features, diagnosis and management

The main manifestations are heavy/prolonged menstrual bleeding, progressive dysmenorrhoea, chronic pelvic pain, intermenstrual spotting and subfertility.^{5,13} The uterus is usually uniformly enlarged, soft, boggy and tender (Halban's sign), often corresponding to about 12–14 weeks' gestation.⁵ TVUS is the first-line investigation and may show a globular uterus, asymmetrical myometrial thickening, heterogeneous echotexture, myometrial cysts, fan-shaped shadowing, echogenic striations and an irregular junctional zone; MRI is the best non-invasive imaging modality, typically showing junctional-zone thickening ≥ 12 mm, myometrial cysts and hemorrhagic foci.¹³ Histopathology remains the definitive gold standard, with diffuse myometrial involvement and small blood-filled cystic spaces producing the characteristic "burnt matchstick" appearance.⁵ Management is individualized according to symptoms, age and fertility wishes. Medical treatment includes NSAIDs, combined oral contraceptives, GnRH agonists and LNG-IUS for symptom control.^{5,13} Conservative surgical options include adenomyomectomy, myometrial reduction and endometrial ablation/resection, while hysterectomy is definitive treatment for women who have completed childbearing or when conservative treatment fails.^{5,13}

AN AYURVEDIC UNDERSTANDING OF ADENOMYOSIS AND ITS MANAGEMENT

Adenomyosis has no direct nosological correlation described in the Ayurvedic classics. It is best understood as a chronic pathological consequence involving multiple Dosha and Dushya, developing after

prolonged Dosha-Dushya Sammurchana and Garbhashaya Vikriti. Based on its Samprapti and Lakshanas, the condition closely resembles the Upadravas of Yonivyapad - particularly Asrigdara, Gulma, and Vandhyatva.

Considering adenomyosis as a Yonivyapad Upadrava, rather than restricting it to a single classical disease entity, provides a more comprehensive Ayurvedic correlation. This framework explains the simultaneous involvement of Dosha, Dushya, Srotas, and Ashaya, offering a rational Ayurvedic approach to both understanding and managing adenomyosis.^{7,12}

Na shukram dharayatyebhirdoshair yonir upadruta,
tasmad garbham na grihnati stri gacchaty amayan bahun.
Gulma-arshah pradaradims cha vata-adyaish cha atipidanam.
(Caraka Samhita, Chikitsa Sthana 30/38-39)

When the Yoni is afflicted by these vitiated Doshas, it cannot retain the Shukra; consequently, the woman fails to conceive and suffers from numerous disorders - Gulma, Arsha, Pradara, and other conditions arising from the excessive aggravation of Vata and the other Doshas.⁷

Correlation with Asrigdara

Asrigdara denotes the condition in which menstrual blood (Rajah) is discharged in a Prolonged and profuse manner (Pradiryate); the term is thus applied when bleeding occurs excessively (Atiprasanga) and even outside the expected menstrual period (Anrtavapi), distinct from bleeding due to other causes, and is invariably accompanied by generalised body ache (Angamarda) and pain (Vedana).⁶ Vata vitiated at the Kati (low back), Vankshana (groin), Hrit (upper abdomen), Parshva (flanks), Prishtha (back), and Sroni (pelvis) causes Asrigdara to be discharged repeatedly (Muhurmuhuh), accompanied by pain.⁷

Classical Term	Clinical Correlate
Atiprasanga pravritta anrtavapi	Menorrhagia and intermenstrual bleeding
Kati vedana	Low back pain
Vankshana vedana	Groin pain
Sroni vedana	Chronic pelvic pain
Tivra vedana	Progressive severe pain / severe dysmenorrhoea
Muhurmuhur raktasrava	Premenstrual spotting, prolonged bleeding, abnormal uterine bleeding
Daha, Raga	Chronic inflammatory process, vascular congestion
Bhrama	Anaemia-related giddiness in women with heavy bleeding

Correlation with Gulma

Gulma is described as that which lodges firmly (station itself) in the Hrid, Basti, Parshva, or Nabhi, giving rise to pain (Shula) and multiple nodular swellings (Granthi), and which persists as a rounded, compact (Pindita) mass - hence the designation "Gulma".⁸

Classical Term	Clinical Correlate
Kathina pinda	Firm, bulky uterus
Shula	Chronic pelvic pain
Muhur adhmana	Pelvic heaviness and pressure
Glani	Generalised tiredness

Chalatva of Vata	Cyclic manifestation of symptoms
Kuksim abhivartayati	Enlarged uterus

Correlation with Granthi

Granthi arises when vitiated Vata and other Doshas afflict Mamsa and Rakta, and together with Kapha-associated Meda, produce a rounded, elevated, and firmly knotted swelling (Shopha).⁹ A Granthi also forms when Rakta is vitiated by the Doshas, involving the Sira and Mamsa, with features predominantly of Pitta.^{10,11}

Classical Term	Clinical Correlate
Rakta Dushti - Pitta lakshana	Chronic inflammation and vascular congestion
Toda	Chronic pelvic pain
Mamsa Samsrishta	Bulky uterus due to myometrial hypertrophy
Granthi-sadrisha Mamsa Vriddhi	Localised / focal adenomyosis

SAMPRAPTI

Samprapti Ghataka

Ghataka	Description
Dosha	Vata pradhana Tridosha
Dushya	Rasa, Rakta, Artava, Mamsa
Srotas	Rasa-Rakta-Artava-Mamsavaha
Srotodushti prakara	Sanga progressing to Vimarga Gamana
Adhishthana	Yoni - Garbhashaya Sandhi
Agni	Jatharagni and Dhatvagni Mandya
Vyadhi Marga	Abhyantara
Sadhyasadyata	Kricchrasadyata

Ayurvedic Samprapti and Modern Clinical Correlation

Repeated Mithyachara acting as Nidana - such as prior curettage, caesarean section, or uterine surgery - corresponds to disruption and microinjury at the junctional zone (endo-myometrial interface). The resulting Vata-Pitta-Rakta Sanga at the Garbhashaya Sandhi corresponds to invagination of basalis endometrium into the myometrium, as described in the invagination theory. Chronic Sanga obstructing the normal Gati of Vata parallels the smooth-muscle hyperplasia and hypertrophy that develops around ectopic glands and stroma, while secondary Kapha-Mamsa Dushti and consequent Mamsonnati represent this later, chronic structural remodelling rather than an initiating event. Dushta Artava and Vimarga Gamana of Rakta correspond to local hyperestrogenism, which sustains ectopic growth and progressive myometrial remodelling. The clinical picture of a bulky, tender uterus with menorrhagia, dysmenorrhoea, and chronic pelvic pain is understood as the resultant Upadrava - manifesting as Gulma, Pradara, and Shula.^{7,12}

Lakshana (Clinical Features) - Ayurvedic and Modern Correlation

Ayurvedic Lakshana	Modern Clinical Correlate
Gulma-like Garbhashaya Vriddhi	Diffusely bulky, globular uterus

Asrigdhara	Menorrhagia / prolonged and heavy menstrual bleeding
Yonishula, Kati-Vankshana Shula	Dysmenorrhoea, chronic pelvic pain, low-back and groin pain
Artava Dushti	Irregular cycles, intermenstrual spotting
Vandhyatva	Subfertility associated with junctional-zone dysfunction
Daurbalya, Panduta (from Rakta Kshaya)	Anaemia secondary to chronic heavy blood loss

AYURVEDIC MANAGEMENT

Guiding Principle

Sarvam vyapanna-yonim tu karmabhir vamanadibhih,
mridubhih panchabhir narim snigdha-svinnam upacharet.
Sarvatah suvishuddhayah shesham karma vidhiyate,
yac cha vata-vikaranam karmoktam tac cha karayet.
Nahi vatad rite yonir narinam sampradushyati.
(Caraka Samhita, Chikitsa Sthana 30)

In all forms of Yonivyapad, the woman is first prepared with Snehana and Swedana and then treated gently (Mridu) with the five Panchakarma procedures. Once she is thoroughly purified (Suvishuddha), the remaining specific treatment is administered, and the measures prescribed for Vata disorders should also be carried out - for no Yonivyapad in women arises without the involvement of Vata. This principle establishes Vata Anulomana as the therapeutic cornerstone across the Shamana, Shodhana, and Sthanika Chikitsa described below.⁷

Samana Chikitsa

In milder or actively bleeding presentations where immediate Shodhana is not appropriate, Samana Chikitsa is employed to pacify the vitiated Doshas through internal medications selected according to the predominant Dosha and symptom profile, thereby controlling pain and bleeding before, or in place of, Shodhana Karma.

Shodhana Chikitsa

Snehana

Purpose: Vata Shamana and Dosha Utkleshana, preparing the vitiated Doshas for elimination.
Formulations: Salmali Ghrita, Shatavari Ghrita, Mahatiktaka Ghrita, Shatapushpa Taila.

Swedana

Purpose: Srotovishodhana, Sanga Bhedana, Shoola Prashamana, and Dosha Vilayana.

Virechana

Indicated in the presence of Rakta-Pitta Dushti Lakshanas.

Formulations: Trivrit Avaleha (mild Virechana), Avipattikara Churna (for Pitta), Gandharvahastadi Eranda Taila (Vata-Pitta), and Nimbamritadi Eranda Taila (for inflammation).

Basti

Purpose: Apana Vata Anulomana and Srotoshodhana.

Formulations: Chandanadi Niruha Basti, Rasnadi Niruha Basti, Lodradi Asthapana Basti, Mustadi Yapan Basti, Madhukadi Anuvasana Basti, and Dhanwantaram Taila Anuvasana Basti.

Uttarabasti

Administered after active inflammation and heavy bleeding are controlled.

Purpose: Artavavaha Srotoshodhana, Apana Vata Anulomana, and Garbhashaya Balya.

Tatah samshuddha-koshasya nirudhad uttaram yatah,
 diyate cha uttaram bastir uttaram sa nirucyate. (Sharngadhara Samhita)
 Ritukale hi narinam garbhashayah sukham vivrito bhavati,
 tasmāt tasmin kale sneham ativa grihnati. (Sushruta Samhita, Chikitsa Sthana)

Symptom-management formulations: Sahacharadi Taila, Dhanwantara Taila, Mahanarayana Taila, Bala Taila, Shatavari Ghrita, Guduchi Swarasa Siddha Taila, and Tiktaka Ghrita.

Fertility-oriented formulations: Phala Ghrita, Shatapushpa Taila, Jeevaniya Ghrita, and Dhanwantara Taila.

Rationale of Key Formulations (Rasapanchaka and Phytochemical Correlates)

The following formulation-level reasoning integrates classical Rasapanchaka with reported phytochemical and pharmacological correlates:

Formulation	Ayurvedic Rationale / Rasapanchaka	Correlate / Reference
Brihat Shatavari Ghrita	Vrishya; corrects Yoni-Asrik-Shukra Dosha; pacifies Vata-Pitta	Shatavari steroidal saponins (shatavarin IV) show phytoestrogenic and uterine-tonic activity. Ca. Chi. 30/64-68
Pushyanuga Churna	Classical formulation for Pradara / Asrigdara; Kapha-Pitta pacifying, Rakta-stambhaka	Lodhra and Ashoka constituents reported to reduce endometrial vascularity and bleeding. Ca. Chi. 30 (Asrigdara section)
Guduchi-Bala-Rasna Taila (Uttarabasti)	Vata-shamaka and Vrana-ropaka at Yoni-Garbhashaya Sandhi; supports local tissue repair	Guduchi shows anti-inflammatory and immunomodulatory action. Ca. Chi. 30/59-60
Phala Ghrita	Madhura-Tikta-Kashaya Rasa, Guru-Snigdha Guna, Sheeta Veerya, Madhura Vipaka; Garbhashaya Balya, Artava Janana, Rasayana, Vata-Pitta Shamana	For Garbhashaya Daurbalya and infertility. A.H. Uttara Tantra (Vandhyatva Chikitsa); Bhaishajya Ratnavali
Tikta Ghrita	Tikta Rasa, Guru-Snigdha Guna, Sheeta Veerya, Madhura Vipaka; Pitta Shamana, Rakta Prasadana, Deepana, Srotoshodhana, Rasayana	Reduces Pitta-Rakta Dushti and Shotha; ideal Snehapana before Virechana. Ca. Chi. (Kushtha); A.H. Chi.
Trivrit Lehya	Madhura-Tikta Rasa, Laghu-Snigdha Guna, Ushna Veerya, Madhura Vipaka; Mridu Virechana, Pitta Nirharana, Anulomana	For Pitta-Rakta Prakopa with heavy bleeding, prior to Basti. Ca. Kalpa Sthana

Avipattikara Churna	Madhura-Tikta-Katu Rasa, Laghu-Ruksha Guna, Sheeta Veerya, Madhura Vipaka; Pitta Shamana, Deepana, Pachana, Mridu Virechana	For Mandagni with mild inflammatory stage. Bhaishajya Ratnavali (Amlapitta Adhikara)
Gandharvahastadi Taila	Katu-Tikta Rasa, Snigdha-Tikshna Guna, Ushna Veerya, Katu Vipaka; Vatahara, Anulomana, Mridu Virechana	For Vata-Pitta predominance with constipation. Sahasrayoga
Dhanvantaram Taila	Madhura-Tikta Rasa, Guru-Snigdha Guna, Ushna Veerya, Madhura Vipaka; Balya, Brimhana, Vatahara	For chronic Vata disorders and Garbhashaya Daurbalya. A.H. Uttara Tantra; Sahasrayoga
Dashamoola Taila	Kashaya-Tikta-Katu Rasa, Snigdha Guna, Ushna Veerya, Katu Vipaka; Vatahara, Shoolahara, Shothahara	For chronic pelvic pain with Vata predominance. Sahasrayoga
Balashwagandhadi Taila	Madhura Rasa, Guru-Snigdha Guna, Ushna Veerya, Madhura Vipaka; Balya, Brimhana, Mamsa Poshana	For Mamsa Dhatu Kshaya and weak uterus. Sahasrayoga
Sahacharadi Taila	Tikta-Katu Rasa, Snigdha Guna, Ushna Veerya, Katu Vipaka; Vedanasthapana, Vatahara	For severe pelvic pain with Vata predominance. Sahasrayoga
Shatapushpa Taila (Uttarabasti)	Katu-Tikta Rasa, Laghu-Snigdha Guna, Ushna Veerya, Katu Vipaka; Artava Janana, Vatahara, Apana Vata Anulomana	For Artava Dushti and infertility. A.H. Uttara Tantra; Sahasrayoga
Bala Taila (Uttarabasti)	Madhura Rasa, Guru-Snigdha Guna, Sheeta Veerya, Madhura Vipaka; Balya, Brimhana, Vatahara	For Dhatu Kshaya and weak Garbhashaya. Sahasrayoga
Mahanarayana Taila (Uttarabasti)	Madhura-Tikta Rasa, Guru-Snigdha Guna, Ushna Veerya, Madhura Vipaka; Balya, Brimhana, Vatahara, Shoolahara	For chronic Vata disorders, persistent pelvic pain, and uterine tissue weakness. Sahasrayoga

DISCUSSION

Adenomyosis can be approached through the principle of Samprapti Vighatana - targeting the involved Dosha, Dushya, Srotas, and Agni rather than treating symptoms in isolation. Its progression can further be interpreted through the sequential evolution of Roga Avastha, tracing the course from initial Dosha vitiation to established structural pathology at the Yoni-Garbhashaya Sandhi.

Apana Vata Anulomana forms the therapeutic basis for addressing pain, dysmenorrhoea, and altered uterine function, consistent with the classical dictum that no Yonivyapad arises without the involvement of Vata. Pitta-Rakta Prashamana and Shothahara approaches complement this by controlling excessive bleeding and the underlying inflammatory changes. Kapha-Mamsa Dushti, manifesting as Mamsonnati and localised Granthi-like induration, is best understood as a secondary, chronic development

superimposed on this Vata-Pitta pradhana process rather than as an initiating factor - a distinction that has direct bearing on sequencing of Shodhana and Shamana therapies.

A holistic approach incorporating Pathya-Apathya, lifestyle modification, Rasayana, and Garbhashaya Balya measures further supports symptom control and quality of life, positioning Ayurvedic management as a complementary framework alongside modern medical and surgical care rather than a replacement for it.

CONCLUSION

The rising prevalence of adenomyosis and its increasing recognition as a major women's health problem warrant greater clinical attention. The disease profoundly affects quality of life through heavy menstrual bleeding, severe dysmenorrhoea, chronic pelvic pain, infertility, anaemia, and psychological distress. Early recognition and timely management are essential to reduce disease burden and preserve reproductive potential.

Although adenomyosis has no direct description in Ayurveda, it can be rationally understood through Ayurvedic principles as a Yonivyapad Upadrava. Ayurvedic management emphasises individualised Shamana, Shodhana, and Sthanika Chikitsa, aiming to address the underlying pathology while improving quality of life - offering a valuable integrative dimension to the contemporary care of women with adenomyosis.

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