International Journal on Science and Technology (IJSAT)

E-ISSN: 2229-7677 ● Website: www.ijsat.org ● Email: editor@ijsat.org

A Siddha Perspective On Uterine Fibroids: Correlation with Modern Pathophysiology

G. Sneha S[1], Leelambigai D[2], Abarna S[3]

[1] UG Scholar, Nandha Siddha Medical College and Hospital, Erode – 52.
[2] Associate Professor, Department of Sool Magalir Maruthuvam, Nandha Siddha Medical College and Hospital, Erode – 52.
[3] Assistant Professor, Department of Sool Magalir Maruthuvam, Nandha Siddha Medical College and Hospital, Erode – 52.

ABSTRACT

Uterine leiomyomas (fibroid uterus) are among the most common benign tumors affecting women of reproductive age **[1]**. These tumors originate from a single smooth muscle cell (myocyte), and their growth is significantly influenced by ovarian hormones, particularly estrogen and progesterone **[2]**. From a modern clinical perspective, fibroids are characterized by localized smooth muscle proliferation and excessive extracellular matrix deposition **[3]**.

In classical Siddha literature, conditions such as Maravai Katti, Karuppai Naarthasai Katti, and Vippuruthi closely corresponds to uterine fibroids **[4]**. These descriptions indicate a profound understanding of abnormal tissue growth and uterine mass formation within the traditional system **[5]**. This theoretical study explores the pathogenesis of fibroid uterus through the Siddha concept of Mukkutram imbalance **[6]**. The study aims to provide an integrative perspective by correlating classical Siddha descriptions with modern hormonal insights, specifically focusing on estrogen dominance and localized tissue proliferation **[2, 7]**. According to Siddha principles, uterine fibroids result from the collective derangement of Vatha, Pitha, and Kabam **[8]**.

This humoral imbalance leads to pathological tissue accumulation, impaired metabolic regulation, and abnormal mass formation within the uterine myometrium **[9]**. Linking Siddha principles with contemporary gynecological findings offers a robust integrative diagnostic framework **[10]**. Conceptualizing fibroid development through the lens of Mukkutram imbalance provides valuable insights and establishes a foundation for future clinical and integrative research in non-invasive gynecological management **[11]**.

KEYWORDS:

Uterine leiomyoma, Fibroid uterus, Siddha medicine, Mukkutram imbalance, Vatha–Pitha–Kabam, Estrogen dominance, Integrative gynecology

1. INTRODUCTION

Uterine leiomyomas, commonly known as Fibroid Uterus, are the most prevalent benign mesenchymal tumors affecting women, primarily during their reproductive years (30–50 years) **[1]**. These non-cancerous growths arise from the smooth muscle layer of the uterus (Myometrium) **[12]**. While many cases remain asymptomatic, a significant number of women experience clinical manifestations such as abnormal uterine bleeding, pelvic pain, and infertility, severely impacting their quality of life **[13]**. Modern clinical research attributes the development of fibroids to complex hormonal dysregulation, particularly involving Estrogen and Progesterone **[2].** In parallel, Siddha Medicine is one of the world's oldest medical systems which offers a profound and unique perspective by identifying the root cause in the derangement of Mukkutram (the three humors: Vatha, Pitha, and Kabam) **[6]**. By integrating classical wisdom with contemporary diagnostic findings, a more holistic and non-invasive treatment strategy can be established **[11]**.

2. MODERN CONCEPT OF FIBROID UTERUS

From a contemporary pathophysiological standpoint, fibroids are considered monoclonal tumors, meaning each tumor originates from the mutation of a single myometrial progenitor cell **[7]**. Their growth and maintenance are intrinsically linked to the cyclic fluctuations of ovarian steroids **[14]**.

- **Hormonal Dependency:** Fibroids are characterized by an increased expression of Estrogen Receptors (ER) and Progesterone Receptors (PR) **[2]**. Estrogen acts as a primary stimulant for cell proliferation, while Progesterone plays a critical role in promoting tumor growth by increasing the mitotic rate **[15]**.
- **Extracellular Matrix (ECM) Deposition:** A defining feature of leiomyomas is the excessive accumulation of ECM components, such as collagen and fibronectin, which contributes to the "hard" or "fibrous" consistency of the tumor **[3]**.
- **Cellular Alterations:** Impaired Apoptosis (programmed cell death) and the over-expression of various growth factors (such as TGF-β) lead to the sustained survival and enlargement of the myocytes, resulting in localized mass formation **[8].**

3. ROLE OF MUKKUTRAM IN FIBROID PATHOGENESIS

The pathogenesis of Uterine Fibroids in Siddha medicine is a complex interplay of the Mukkutram (three humors), primarily driven by the derangement of Abana Vayu **[9]**. As documented in the Sarabendhirar school of Medicine (which integrates classical wisdom from sources like Dhanvantari and other Siddhars), the etiology of uterine diseases is multifaceted **[16]**.

Multifactorial Etiology: The classical text Sarabendhirar Vaidya Chinthamani highlights various internal and external triggers in the following verse:

"வஞ்சனை தன்னினாலும் மருந்தீடு தன்னினாலும் மொஞ்சிடு சரீரவேட்கை யுறுதிசெய் தண்டிப்பாலும் அஞ்சலாம் பிள்ளைப் பேறிலடங்கிய இரத்தத்தாலும் மிஞ்சிய வாயுவாலுங் கருப்பநோய் மேவுமென்னே" **[16]**.

- சரபேந்திர வைத்திய சிந்தாமணி

Clinical Interpretation: This verse identifies that excessive or vitiated Vata (specifically Abana Vayu), caused by factors such as emotional stress (Vanjanai), improper medication (Maruntheedu), excessive bodily indulgence (Sareera Vetkai), physical trauma (Thandippu), and retention of lochial blood after childbirth (Pillai-paeril adangiya raththam), leads to stagnation within the uterus **[16, 17]**.

Pathological Progression: In Siddha medicine, uterine tumors are not merely viewed as localized growths but as a result of systemic Mukkutram derangement **[6]**. The progression from stagnation to solidification is described in Sarabendhirar Karuppa Roga Chikitsai:

"மருவியதோர் வாயுவா லபானன் றன்னால் மகிழ்ந்திருக்கு முதிரமது கட்டியாகி. உருவியே கருப்பையதிற் றங்கி நின்றால் உண்டாகுங் கல்லடைப்புப் போலே தானே" **[16]**.

- சரபேந்திர வைத்திய சிந்தாமணி

Analysis of the Verse: This verse explicitly states that when the Apana Vayu is vitiated, it disrupts its normal downward flow, causing menstrual blood and tissues to stagnate in the uterine cavity **[9, 16]**. Over time, this stagnated material solidifies into a stone-like hard mass (Kalladaippu), corresponding to what is clinically observed as a uterine fibroid **[3, 10]**.

Pathophysiological Note:

- **Vadham:** Initiates stagnation, signaling errors, and improper flow **[9]**.
- **Kabam:** Promotes the density, firmness, and sustained growth of the mass **[6, 11]**.

Literary Validation: The text Sarabendhirar Vaidya Chinthamani succinctly captures this dual-humoral interaction and its clinical presentation:

"வாதம் கபமுடன் கூடித் தான்கெட்டு. மாதர்தம் கருப்பையினிற் றங்கி நின்றால். ஏதமில்லா ததொரு கிரந்தி தோன்றி இடுப்பு நோவடிவயிறு கனக்கப் பண்ணும்" **[16]**.

- சரபேந்திர வைத்திய சிந்தாமணி

Clinical Interpretation: This verse confirms that the synergy of deranged Vata (Vaatham) and Kapha (Kabam) within the uterus results in a Granthi (neoplastic growth) **[17]**. The clinical symptoms noted—chronic pelvic pain (Iduppu noovu) and lower abdominal heaviness (Adivayiru kanakkam)—align perfectly with the modern clinical diagnosis of a bulky fibroid uterus **[12, 13]**.

DISCUSSION: INTEGRATIVE PATHOPHYSIOLOGY OF UTERINE FIBROIDS

The development of Uterine Fibroids is interpreted as a systemic humoral derangement that manifests locally in the uterine myometrium **[10]**. This section correlates the Siddha concept of Kuttra Verubadu (Humoral imbalance) with modern pathological markers.

1. Humoral Imbalance (Kuttra Verubadu) The primary trigger is the vitiation of Vali (Vadham), specifically the Abana Vayu, which governs the downward physiological functions such as menstruation **[9, 17]**.

- **Etiology:** Factors like Vadham-increasing diets and the chronic suppression of natural urges (Vegam) disrupt the normal flow of Abana Vayu **[18]**.
- **Pathophysiological Shift:** According to Siddha principles, the redirected and stagnant Vadham initiates the pathological process by causing tissue congestion and stagnation in the Karuppai (uterine cavity) **[10]**. This mirrors the modern understanding of altered myometrial contractility and vascular stasis **[19]**.

2. Tissue Involvement (Thathu Involvement) The aggravated Vali humor subsequently invades the Sathai Thathu (Muscle tissue) and Kurudhi Thathu (Blood tissue), leading to localized proliferation **[12, 20]**:

- **Vadham (Vali):** Correlates with the initiation of cellular mutation and provides the characteristic "hardness" or fibrous nature of the tumor **[7]**. In modern terms, this relates to the increased tensile strength of the fibroid tissue **[3]**.
- **Kabam (Iya):** Correlates with the excessive deposition of Extracellular Matrix (ECM) and cellular hypertrophy **[3]**. Kabam is the structural architect; its derangement provides the actual bulk and mass of the fibroid **[6]**.
- **Pitham (Azhal):** When Pitham is associated with this imbalance, it manifests as Uthira Perukku (Menorrhagia) **[17]**. The increased metabolic heat (Ushna) in the Karuppai leads to vascular congestion and disruption of the endometrial lining, correlating with the inflammatory markers seen in modern pathology **[21]**.

4. CONCLUSION

In conclusion, the pathogenesis of Uterine Fibroids can be effectively interpreted through the Siddha concept of Mukkutram imbalance **[10]**. The complex interplay between Vadham, Pitham, and Kabam mirrors the multi-factorial nature of fibroid development, where hormonal influences, vascular changes, and cellular proliferation converge **[1, 2]**. Understanding fibroid pathogenesis from this integrative perspective bridges traditional knowledge with modern medical concepts, offering a holistic framework for diagnosis, prevention, and therapeutic research **[11]**. By focusing on restoring humoral equilibrium, this approach highlights the profound relevance of Siddha Medicine (Magalir Maruthuvam) in managing women's health and encourages further evidence-based clinical exploration into personalized, non-invasive treatments **[5]**.

REFERENCES

1. **Bulun SE.** Uterine leiomyoma. New England Journal of Medicine. 2013; 369(14):1344-55.
2. **Kim JJ, Kurita T, Bulun SE.** Progesterone action in uterine fibroids. Endocrine Reviews. 2013; 34(3):303-39.
3. **Moravek MB, et al.** The role of the extracellular matrix in uterine leiomyoma. Fertility and Sterility. 2015; 104(3):492-9.
4. **Mudaliar KNS.** Sool Magalir Maruthuvam. 4th ed. Chennai: Directorate of Indian Medicine; 2015.
5. **Reis FM, et al.** Pathogenesis of uterine fibroids. Best Practice & Research Clinical Obstetrics & Gynaecology. 2016; 34:13-24.
6. **Kuppusamy Mudaliar KN.** Siddha Maruthuvam (Pothu). 7th ed. Chennai: DIMH; 2012.
7. **Townsend AK, et al.** Genetics and biology of uterine leiomyomas. Fertility and Sterility. 2016; 106(7):1480-94.
8. **Catherino WH, et al.** Strategy for Identifying Therapeutic Targets for Uterine Leiomyoma. Human Reproduction Update. 2011; 17(3):387-403.
9. **Shanmugavelu TS.** Siddha Maruthuva Noi Naadal (Part I). Chennai: DIMH; 2003.
10. **Magudapathi G, et al.** Integrative approach in Magalir Maruthuvam. Journal of Siddha Medicine. 2018.
11. **Aruljothi S, et al.** Role of Siddha medicine in non-communicable diseases. International Journal of Pharma Research. 2014.
12. **Stewart EA, et al.** Uterine leiomyomas. Nature Reviews Disease Primers. 2017; 3:17043.
13. **Zimmermann A, et al.** Prevalence, symptoms and management of uterine fibroids. BMC Women's Health. 2012; 12(1):6.
14. **Maruo T, et al.** Effects of progesterone on uterine leiomyoma growth. Steroids. 2003; 68(10-13):817-24.
15. **Rein MS, et al.** The role of growth factors in uterine leiomyomata. Journal of the Society for Gynecologic Investigation. 1995.
16. **Sarabendhirar Vaidya Chinthamani.** Karuppai Noigal Athigaram. Tanjore: Saraswathi Mahal Library Publication.
17. **Venugopal PV.** Kumari Maruthuvam (Gynaecology). 2nd ed. Chennai: DIMH; 2010.
18. **Uthamarayan KS.** Thotrakirama Aaraichi. Chennai: DIMH; 2005.
19. **Brahms G, et al.** Myometrial contractility in fibroid uterus. Journal of Clinical Endocrinology. 2014.
20. **Murugesa Mudaliar KS.** Siddha Materia Medica. Chennai: DIMH; 2013.
21. **Wegienka G.** Are uterine leiomyoma a marker of systemic inflammation? Current Opinion in Obstetrics and Gynecology. 2012.