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REVIEW ARTICLE

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Understanding the *Nidana Panchaka* of *Sthoulya* induced Fibroid Uterus (*Garbhashaya Granthi*) through its Ayurvedic management

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ABSTRACT

Sthoulya (obesity) is one among the non-communicable disease which is a threat for human health. The overweight population have been doubled in a few decades in urbanised societies as a result of changes occurring in Food Habits, Lifestyle and Occupational patterns, and these have significant health implications as they produce Santarpanottha Vikaras. In Ayurveda metabolic disorders can be corelated with the Santarpanottha Vikaras. Sthoulya is enumerated under Santarpanottha Vyadhi. Dustha Kapha and Medo Dhatu when they take Sthanasamshraya in Garbhashaya Mamsa Dhatu and results in the manifestation of Granthi, Arbuda, which are enumerated under Santarpanotha Vyadhi. In the Nidanaarthakara Roga, the Ubhayarthakara Roga is explained which refers to the manifestation of secondary disease with persistence of primary disease. Here in this Vyadhi Sthoulya acts as a Ubhayarthakara Roga for Garbhashaya Granthi. In the literatures of Ayurveda, research articles, Allopathic books, Modern research articles we have found a link between Kapha Dosha, Meda Dhatu, Sthoulya (Obesity) having relation with manifestation of Fibroid Uterus (Garbhashaya Granthi). To come out with line of treatment, as direct line of treatment is not explored hence, we want to explore the line of treatment for Sthoulya (Obesity) induced Fibroid Uterus (Garbhashaya Granthi) with its different dimensions of Ayurvedic treatment.

Key words: Sthoulya, obesity, Santarpanottha Vikara, Fibroid Uterus, Garbhashaya Granthi.

INTRODUCTION

As changes occurring in Food style, Lifestyle, Lack of exercise are the main culprit for Obese patients especially in Female. This Obesity is one of the main causes for the Fibroid Uterus (*Garbhashaya Granthi*).

The *Nidanas*^[10] explained in *Santarpanotha Vyadhi* are responsible for the Metabolic disorders which vitiates

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the Agni and Samana Vayu, Thereby it vitiates Kapha and its Gunas like Guru, Manda, Sheeta and Snigdha Guna. This Vikruta Kapha further vitiates Meda and Mamsa Dhatu in Garbhashya producing Fibroid Uterus(Garbhashaya *Granthi*).^[3] Fibroid (Garbhashaya Granthi) can be seen in all the three layers of Garbhashaya i.e., Submucosal Fibroids -Endometrium, Intramural Fibroid -Myometrium, Subserosal **Fibroids** Perimetrium.[11] Fibroids Kapha Asymptomatic are Submucous Fibroids presenting with Menstrual irregularities are Vata Pitta Anubandha Avastha, and subserous fibroid presenting with Pressure symptoms are Vata Anubhandha Avastha.

This disease can be properly understood based on the *Dosha, Dushya, Agni, Srotas, Vyadhi Avastha*, for proper Diagnosis and Management. Uterine Fibroids are the most common abnormal growths that arise from the myometrium of uterus. The symptoms are mostly related to Nature, extension and location of

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lesion - further it's Number, Size, Layer and Location of the Fibroid and the common symptoms include Dysmenorrhoea, Menorrhagia, Lower abdominal pain, irregular menstrual cycle etc.

Nidana Panchaka of Sthoulya induced Fibroid Uterus (Garbhashaya Granthi)

Sthoulya is one among the Santharpanottha Vyadhi^[1] involving Meda, Mamsa and Kapha Dosha which is responsible for the manifestation of Metabolic disorders. Athisthoulya is mentioned as Medoroga in Madhavanidana^[12] and Bhaishajyaratnavali.^[13] Where as in Brihatrayi, it is not mentioned as a specific Vyadhi.

Apatarpana is the line of treatment for all the Santarpana Vyadhi^[14] and for Metabolic Disorders. As in cases of Sthoulya and Fibroid Uterus (Garbhashaya Granthi) the line of treatment continues the same as because there is an involvement of Kapha and Medo Dhatu. The excessive Meda will get accumulation at Spik, Sthana and Udara Pradesha.^[15]

In Sthoulya Roga Meda Sanchaya takes place predominantly in Udara Pradesha and Garbhashaya has its Sthana in the Udara. Therefore, the Granthi which is formed in the Garbhashaya is influenced by the Medo Dhatu. hence there is a direct relationship between Garbhashaya and Udarastha Meda and the Samprapti and Chikitsa of both these diseases are interlinked with each other.

Nidana

Aharaja

- Madhura, Guru, Sheeta, Snighdha, Ahara Sevana^[10] (foods which are sweet, heavy to digest, cold, fatty food substance).
- Kapha Vardaka Ahara Sevana^[10] (intake of the food, which increases Kapha),
- Ati Bhakshana^[10] (excessive eating),

Viharaja

- Avyayama^[10] (lack of physical exercise),
- Divaswapna^[10] (sleeping during day time),
- Avyavaya^[10] (lack of sexual intercourse),

Manasika

- Krodha
- Chinta

Others

- Beeja Svabhava
- Agni Vaishamyatva

Samprapti

Sthoulya and Fibroid Uterus (Garbhashaya Granthi) are the Santarponotha Vyadhi. There are 2 stages of Samprapti which can be understood in relation to Sthoulya induced Fibroid Uterus (Garbhashaya Granthi). Sthoulya patients are more prone to develop Garbhashaya Granthi hence we need to understand Samprapti in detail. In the initial stage Sthoulya Roga manifested. In the 2nd stage this Sthoulya Roga becomes Nidanaarthakara Roga for the Fibroid Uterus (Garbhashaya Granthi).

1st stage - Samprapti of Sthoulya:[16]

Nidana Sevana (Kapha and Meda Sadharmi Amsa)



Kapha Dosha Vriddhi



Jatharagni Vikriti



Medo Dhatwagnimandhya



Vikruta Medo Vriddhi and Sanchaya



Sanga in Medo Vaha Strotasa



Margavarodha Janya Vata Prakopa and Vimarga Gamana of Vayu



Sarvanga Sharira Gamana (Vata) especially in Koshtha



Jatharagni Sandhukshana



Atiaahara Sevana due to Sheegra Jarana

 $\mathbf{\downarrow}$

Increases Medo Poshakamsha



Meda Sanchaya



Sthoulya (Medoroga)

In further stage (2nd stage) *Sthoulya* will act as *Ubhayarthakari Nidana* for Fibroid Uterus (*Garbhashaya Granthi*)

Sthoulya



Due to the dysfunctioning of *Rasadhatwagni* and *Samanavayu* there will be excessive formation of *Ashuddha Rasa*



This Ashuddha Rasa having Snigdha, Manda, and Guru Guna affects its subsequent Dhatu and Upadhatus formation.



This results in the formation of *Ashuddha Artava* (altered steroidogeneis and anovulation).



Which initiates the growth of leiomyoma by abnormally stimulating the *Garbhashaya* (uterine myometrium).



Smooth muscle hypertrophy in *Garbhashaya* leads to the development of Uterine Fibroids.



Sthoulya becomes Nidanarthakara Roga (Ubhayarthakari Nidana) for the Fibroid Uterus (Garbhashaya Granthi), the line of treatment of Granthi will follow the same line of treatment as that of Santarponottha Vikaras i.e., here we follow the both Sthoulya and Granthi Chikitsa.

Samprapti Ghatakas

Dosha

Vata - Samana Vayu, Apana Vayu

Pitta - Pachaka Pitta

Kapha - Kledaka Kapha

Guna

Vata - Sheeta

Pitta - Sasneha, Sara

Kapha - Snigdha, Guru, Slakshna, Sthira

Dushya - Rasa, Rakta, Mamsa, Meda, Artava

Agni

Jhatargni - Mandagni

Dhatvagni - Medo Dhatvagni Mandya

Mamsa Dhatvagni Mandya

Rasa Dhatvagni Mandya

Artava Dhatvagni Mandya

Ama - Sama Avastha

Srotas - Rasa, Rakta, Mamsa, Meda, Artava Vaha

Sroto Dusti Prakara - Sanga (Sthoulya), Granthi (Garbhashaya Granthi)

Udbhava Sthana - Udara, Amashaya

Sanchara Sthana - Medovaha Strotas, Artavaha Srotas,

Adhisthana - Garbhashaya

Vyaktasthana - Garbhashaya

Rogamarga - Abhyanthara

Vyadhi Svabhava - Chirakari

Roopa

The Lakshanas related to the Sthoulya induced Garbhashaya Granthi (Fibroid Uterus) includes the pathophysiology of the Santarpanottha Vikaras wherein Sthoulya Lakshanas are more prominent which leads into the manifestation of Fibroid Uterus (Garbhashaya Granthi).

Sthoulya Lakshanas

Medomamsa Ativrudhi, mainly at Sphik, Stana Udara Sthana ^[15]	Excessive fat deposition mainly at the buttocks, chest region and abdominal region.
Ayathaopachaya ^[17]	Abnormal fat deposition

Javoparodha ^[17]	Lethargic
Kruchra Vyavaya ^[17]	Difficulty in performing the sexual activities
Durbalata ^[17]	General weakness
Atiswedha ^[17]	Excessive sweating
Atikshudha ^[17]	Increased hunger
Atipippasa ^[17]	Increased thirst

Fibroid Uterus (*Garbhashaya Granthi*) Lakshanas were not directly explained in the *Samhithas* but *Granthi Lakshanas* are explained. Depending on the *Sthana* of the *Granthi* we can consider the *Lakshanas* of Fibroid Uterus (*Garbhashaya Granthi*) as:

शरीरवृद्धिक्षयवृद्धिहानिः स्निग्धो महानल्परुजोऽतिकण्ड्ः ।

मेदःकृतो गच्छति चात्र भिन्ने पिण्याकसर्पिःप्रतिमं तु मेदः॥ (स.सं.न.११/७)

According to Sushruta Acharya, *Medoja Granthi* increases or decreases in size based on the *Shareera Vrudhi* i.e., based on the increase of body fat. It has Unctuous property, Large in size with Less pain and intense itching.^[18]

Granthibhuta Artava	Clots during menstruation
Atyartava	Increased menstrual bleeding
Kastartava	Pain during menstruation
Alpartava	Decreased menstrual bleeding
Kastamaithuna	Dyspareunia
Kukshishula	Pain at the abdominal and pelvic region
Putragni	Habitual abortion

Diagnostic criteria

Ultrasonography of Abdomen and Pelvis/ Transvaginal scan - which confirms the presence of Fibroid Uterus (*Garbhashaya Granthi*) manifesting in different Position, Number, Layers and Size.

Submucosal (5%) - Endometrium

- Intramural (75%) Myometrium
- Subserosal (15%) Perimetrium

Sthoulya can be diagnosed by BMI and Anthropometric measures like waist hip ratio.

To rule out Hypothyroidism tests like Thyroid profile test are done.

To rule out Dyslipidemia Lipid profile tests are done.

To rule out the Cardiac disease cardiac profile is done.

To rule out the cancer Pap Smear is done.

Vyadhi Vyavachedhaka

Adenomyosis, PCOD, Uterine tumours, Cervical or Vaginal tumours

Vyadhi Vinischaya: Sthoulya induced Fibroid Uterus (Garbhashaya Granthi)

Chikitsa

Chikitsa Siddhanta which is explained for Santarponottha Vikara, [19] Sthoulya Vikara, [13,20] Kapha-Meda vikara, [21] Kaphasya Upakrama, [22] Granthi, [23-25] Arbuda [26-28] Chikitsa can be included to manage this disease, wherein Kapha Dosha, Dushya like Mamsa, Meda is involved. Hence the treatment principle will include drugs having Sthoulyahara, Kaphagna, Medoghna, Granthihara properties can be incorporated.

Principles and Practice of Medicine in *Sthoulya* induced Fibroid Uterus (*Garbhashaya Granthi*)

This article focuses on exploring the *Chikitsa Siddantha* of the *Oushadhi Sadhya Vyadhi*. From the *Chikitsa Sutra* of *Santarponottha vikaras, Sthoulya, Granthi, Arbuda, Gulma, Kaphasya Upakrama Chikitsa Siddanta* we can adopt some of the treatment principles in the Fibroid Uterus (*Garbhashaya Granthi*).

The *Chikitsa* of *Sthoulya* induced Fibroid Uterus (*Garbhashaya Granthi*) can be understood in 3 levels

- 1) Hetu Viparita Chikitsa
- 2) Dosha Viparita Chkitsa
- 3) Vyadhi Viparita Chikitsa

Hetu Viparita Chikitsa:

Amapachana is done as Ama is the main cause for the Sthoulya and it acts as inflammatory cause for the Fibroid Uterus (Garbhashaya Granthi).

Chikitsa: Langhana, Pachana, Deepana

Drugs which are used for Amapachana are -

- Agnimukha Choorna,
- Intuppu Kanam Choornam,
- Trikatu Choorna,
- Shivakshara Pachana Choorna,
- Sanjivini Vati,
- Panchalavana Bhasma

Dosha Viparita Chikitsa:

To expel out the *Dushitha Dosha* from the body *Shodhana* is carried out.

Shodhana like - mainly Mrudu Vamana, Mrudu Virechana, Lekhana and Tikshna Basti.

Panchakarma procedure	<i>Dravya</i> used	
Vamana	Snehapana- Krishna Tila Taila, Varunadi Ghrita	
	Abhyanga –Tila Taila, Kottamchukadi Taila, Maha Vajraka Taila	
	Vamana- Madhanaphaladi Yoga	
Virechana	Snehapana - Guggulutiktaka Ghrita, Sukumara Ghrita	
	Abhyanga - Nirgundyadi Taila, Dhanwantaram Tailam, Brihat Saindhava Taila	
	Virechana - Trivrutt Lehya	
Basti	Lekhana Basti, Kshara Basti , Uttara Basti	
Udwartana	Kolakulathadi Choorna, Triphala Choorna, Kotamchukadi Choorna	
Nasya	Triphaladi Taila	

Vyadhi Viparita Chikitsa

To bring back the equilibrium state of the *Dosha, Dhatu, Mala* the *Shamana Oushadhi* are given.

Oushadhi Kalpa	Formulations	
Single Drugs	Shilajatu, Guggulu,	
	Gomutra, Guduchi,	
	Nagaramotha, Vayavidanga,	
	Nagara, Amalaki,	
	Agnimantha, Shilajatu	
Choorna	Hingwastaka Choorna, Hingwachadi Choorna,	
Kalpanas	Vidanagadi Choorna, Vyoshadi Guggulu Choorna,	
	Gomutra Haritaki, Triphala Choorna, Trikatu Choorna	
Kashaya Kalpanas	Chitrakagranthikadi Kashaya, Saptasara Kashaya,	
	Vizhalveradi Kashaya, Varanadi Kashaya,	
	Guggulutiktakam Kashayam,	
	Hamsapathyadi Kashaya, Sukumara Kashaya, Trayantyadi Kashaya,	
Asavaarista	Dhanwanataram Arista, Sukumararista,	
Kalpana	Chavikasava, Gomutrasava,	
	Guggulutiktaka Arista, Khadiraritam,	
Guggulu	Kanchanara Guggulu, Triphala Guggulu,	
Kalpana	Navaka Guggulu, Punarnavadi Guggulu,	
	Trayushandi Guggulu, Kukkutanakhi Guggulu	
Vati Kalpana	Kankayana Vati, Guggulu Panchapala Gulika,	
	Siva Gulika, Vidangadi Gulika,	
	Shilajatvadi Vati, Dwipanchamooladi Vati,	
	Kshara Vati, Gomutra Vati, Trayushnadi Loha,	
Taila	Dhanwantaram Taila, Varanadi Tailam,	
	Hingutriguna Tailam, Eranda Sukumara Tailam,	
	Nimbamrutaeranda Tailam,	
Ghrita	Chiravilwadi Ghrita, Hapushadi Ghrita,	
	Misrakasneha, Pathyapada Ghrita,	
	Saptasara Ghrita, Panchatikta Ghritam, Guggulutiktaka Ghrita	
Rasaoushadhi	Gulmakalanala Rasa, Sthoulyantaka Rasa,	
	Kanmada Bhasma, Kasisa Bhasma,	
	Tamra Bhasma, Rasa Sindura,	
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	Vidangyadi Loham, Gulmaktara Rasa
Lehya Kalpanas	Danti Haritaki Lehya, Hingutriguna Lehya, Dasamula Haritaki Lehya, Bhallataka Rasayana, Lasuna Rasayana, Madhusnuhi Rasayana
Lepas	Kulathadi Chorna, Tuthadwayadi Gulika
Others	Rasanjanam, Kalyanaka Kshara

Menorrhagia and intermenstrual bleeding should be treated by using Raktapradara (menorrhagia) Chikitsa.[29] Kashaya Pradhana Dravya can be used as Rakta Stambhana Dravya (haemostasis). Further, Rakta Vardhaka treatment is needed to correct the depletion of haemoglobin level because of menorrhagia. Apanavata Anulomana, Vedana Nashana (Analgesic) treatments are needed for the cases with Kashta Rajas (dysmenorrhea). The same Apana Vata Anulomana treatments can be adapted for Maithuna Asahishnuthva (dyspareunia) and Kati Shula (noncyclic pelvic pain). Mutra Dosha (increased urinary frequency) associated with fibroids can be managed with the help of Mutra Shodhaka (urine purification), Mutra Vaha Srotas Avarodha Hara medicines.

Pathya-Apathya

Ahara Varga	Pathya	Apathya
Shuka Dhanya (Cereal grain)	Purana Shali, Kodrava, Shyamak, Yava, Priyangu, Laja, Nivara, Koradushaka, Jirna, Prashatika, Kanguni	Godhum, Naveen, Dhanya, Shali
Shami Dhanya (Pulses)	Mudga, Rajamasha, Kulatha, Chanaka, Masur, Adhaki, Makusthaka, Tila	Masha
Shaka Varga (Vegetables)	Patol, Patrashaka, Shigru, Vruntaka, Katutikta, Vastuka, Trapusha, Vartaka, Evaruka, Adraka, Mulaka, Surasa, Grajjan etc.	Kandashaka.
Phala Varga (Fruits)	Kapittha, Jambu, Amalaki, Ela, Bibhitaki, Haritaki, Maricha, Pippali, Eranda, Karkati, Ankola, Narang, Bilvaphala	Madhuraphala
Drava Varga	Honey, Takra, Ushnajala, Tila And Sarshapa Taila,	Milk preparations

	Asava Arista, Surasava, Jeerana Madhya	(Kshira, Dadhi, Sarpi) Ikshuvikara
Mamsa Varga	Rohita Matsya	Aanupa, Audaka, Gramya Mamsa
Viharaja	Shrama, Jagarana, Nitya Bhramana, Vyavaya	Sheetal Jala Sevana Divaswapa, Avyavaya, Avyayama, Ati Asana, Sukha Shaiya Sevana
Manasika	Chinta, Shoka, Krodha	Nitya Harsha, Achinta, Manaso Nivriti, Priya Darshan

DISCUSSION

In the Samprati (pathogenesis) of Granthi, it is mentioned that Mamsa (muscle fibers), Rakta and Medo Dhatu are vitiated. Several studies have found that an association between obesity and increased incidence of uterine leiomyomas. In a prospective study from Great Britain, [5] the risk of fibroids increased approximately 21% for each 10 kg increase in body weight; similar results were obtained when the body mass index (BMI) was analysed rather than weight. In a case-control study from Thailand, [6] a 6% increase in risk was observed for each unit increase in BMI. Similarly, a large prospective study of registered nurses in the United States found an increased fibroid risk with increasing adult BMI, as well as an increased risk associated with weight gain since age 18 years.[7] A case-control study from Japan likewise reported that women with occult obesity (BMI <24.0 and body fat ≥30%) or women with upper-body fat distribution (>0.80 waist-to-hip ratio) were at significantly higher risk.[8] In a study from Boston, Massachusetts, 51% of the hysterectomies- or myomectomies-confirmed patients with leiomyomata were overweight, and 16% were severely obese. [9] Obesity is one of the risk factors for Fibroid Uterus and increased body fat (Especially abdominal visceral fat) is capable of raising the chances Fibroid Uterus. The waist -hip ratio of

Perimenopausal women can often be measured as an indicator for screening high risk groups of Fibroid Uterus. [30]

Uterine fibroid needs clear understanding of pathogenesis, with emphasis to the status of different Dosha, their key Gunas and its interaction with Dushya (Dosha, Dhatu, Mala, Upadhatu etc). This disease initially following Prakupita Kapha in Rasa dhatu with Manda, Guru & Snigdha Gunas interact with uterine myometrium by causing increased oestrogen receptor formation/ due to Dustaartava lead by Samana Vayu dysfunction and there by leading to leiomyoma. The Manda Guna of Prakupita Kapha is responsible for its very slow growth and Apakitva. Only after substantial increase in size of the tumour the symptoms are produced, this is the reason behind asymptomatic fibroids. The Vikruta Kapha which interacts with Sthanika Pitta (Pitta which resides endometrium) and Vyana Vayu (controller of function of blood circulation in endometrial vasculature) and Apana Vayu (initiator of menstrual efflux) present in the endometrium and myometrium cause the menstrual irregularities. Menstrual irregularities like menorrhagia, menometrorrhagia, metrorrhagia, dysmenorrhea, pressure symptoms, infertility, abortion etc are common features of submucous fibroids. The Chikitsa Siddhanta which is explained for Santarponottha Vikara, [19] Sthoulya Vikara, [13,20] Kapha-Meda Vikara, [21] Kaphasya Upakrama [22], Granthi, [23-28] Arbuda [26-28] can be included to manage this disease as Kapha Dosha and Dushyas like Mamsa, Meda are involved in all these Vyadhi. We are having the medical management for the fibroid uterus of size less than 5cm and >5cm size is advised for surgical management.

CONCLUSION

The disease uterine fibroid is initiated by kapha causing Mamsavaha Sroto Dushti in Garbhashaya resulting in Mamsa Vruddhi (muscular outgrowth). The submucous fibroid and subserous fibroid are the Upadravas produced following the Vata Pitta dysfunction and Vata dysfunction respectively. Kapha Prakupita Nidana strongly initiates the pathology by altering the function of Samana Vayu in Artavaaha Srotas at Garbhashaya.

Sthoulya is the diseases which is produced due the involvement of *Prakupita Kapha* and *Meda Dhatu*, so by treating the *Dushitha Kapha* and *Meda* we can treat both *Sthoulya* and Fibroid Uterus (*Garbhashaya Granthi*).

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