

# Integrated Effect Of Yoga And Ayurveda On Uterine Fibroid – A Case Report

Vijayakumar\*, Sahana.

\*BAMS, MD (Y&R), M.Sc. (Psy), Ass. Professor. Swami Vivekananda Yoga Anusandhana Samsthana (SVYASA), Bangalore, Karnataka, India.

M.Sc. (Psy), Ass. Professor. Swami Vivekananda Yoga Anusandhana Samsthana (SVYASA), Bangalore, Karnataka, India.

## Abstract

Uterine Fibroids are the Commonest Benign tumor of the Uterus and also the commonest benign solid tumor in female. It has been estimated that at least 20% of women at the age of 30 have got fibroid in their wombs. Fortunately, most of them (50%) remain asymptomatic. These are more common in nulliparous or in those having one child infertility. The prevalence is highest between 35 to 45 years.<sup>1</sup> One in every five woman of childbearing age suffers from uterine fibroid.<sup>2</sup> Around 68 to 70% of women undergo surgical procedures to treat fibroid each year. The modalities available in contemporary medical science mainly includes hormonal therapy, hysterectomy, myomectomy and uterine artery embolization. Unfortunately none of these method are considered as the sole reply to this disease. Thus, now, women are looking for non invasive treatment methods which do not require hospitalization and lengthy recovery. This is where an integrated approach is needed. A case of uterine fibroid was managed by integrated module of yoga and Ayurveda intervention. Ultrasonography (USG) of the lower abdomen was the main investigative/diagnostic tool along with BMI in this study. After three months, patient presented with USG report as absence of uterine fibroid. Integrated yoga and Ayurveda intervention found to be effective treatment modality in uterine fibroid for prevention and management.

**Keywords:** *Ayurveda, Yoga, uterine fibroid. BMI=body mass index, CM=cyclic meditation.*

## Introduction

Uterine fibroid, a noncancerous growth of the uterus that often appear during childbearing age of female and also known as fibromyomas, leiomyomas or myomas; is one such gynecological disorder which is posing a major health problem.<sup>2</sup> Less than 0.1% of all uterine fibroids are malignant. Regardless of benign neoplastic character, uterine fibroids are responsible for significant morbidity in a large segment of the female population. The clinical effects are related to their local mass effect, resulting in pressure upon adjacent organs, excessive uterine bleeding, or problems related to pregnancy, including infertility and repetitive loss of pregnancy.<sup>3</sup> As a consequence of these local pressure effects and bleeding, uterine fibroids rank as a major reason for hysterectomy accounting for approximately one-third of all hysterectomies or about 2,00,000 hysterectomies/year.<sup>4</sup> Sedentary lifestyle, obesity, low thyroid function may contribute to fibroid formation. Stress and sadness associated with issues of maternity and conception is also considered to be

responsible for fibroid formation. The modalities available in contemporary medical science mainly includes hormonal therapy, hysterectomy, myomectomy and uterine artery embolization. Unfortunately none of these method are considered as the sole reply to this disease. Thus, now, women are looking for non invasive treatment methods which do not require hospitalization and lengthy recovery. This is where an integrated approach is needed. From the available scientific evidence we have developed an integrated yoga ayurveda module the same as selected for this case study.

### **Stress and uterine fibroids**

Stress is a threat to homeostasis. Chronic life stress is characterized by reward eating (consumption of high-energy dense and palatable foods), elevation of cortisol, and long-term weight gain correlates with the incidence of uterine fibroids.<sup>5</sup> Increases in cortisol and insulin may be a natural somatic protective response to stress, wherein the stress response both causes and is caused by a threat to homeostasis; i.e. the mechanistic trail may be convoluted. For example, stress increases activities associated with pleasure such as reward eating in order to inhibit the hypothalamic-pituitary-adrenal axis (HPA) as protective mechanism.<sup>6</sup> The consequent chronic suppression of cortisol levels may eventually cause insulin resistance, which in turn may result in the development of obesity, hypertension and atherosclerosis; all of which are implicated in fibroid growth.

### **BMI and uterine fibroids**

Obesity increases the risk of developing fibroids, this is probable due to the peripheral conversion by fat aromatase of circulating androgen to oestrogen. In a prospective study from Great Britain,<sup>7</sup> 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 analyzed rather than weight. In a case-control study from Thailand,<sup>8</sup> 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.<sup>9</sup> In a study from Boston, Massachusetts, 51% of the hysterectomies- or myomectomies-confirmed patients with leiomyomata were overweight, and 16% were severely obese.<sup>10</sup>

### **Case Study**

37 years old non-smoker, non alcoholic female patient, reported to arogyadhama a holistic health center of S-VYASA University, Bangalore, India. Presented with the diagnosis of uterine fibroid, diagnosis was made with the help of ultrasonographical (USG) examination and clinical correlation. As per her USG reports, uterine fibroids of 24 mm × 16 mm size present in the posterior wall and of 22 mm × 12 mm size in anterior wall, associated gynecological symptoms such as pain lower abdomen, backache, excessive and irregular bleeding were presented. Patient was obese with the BMI of 29, she also expressed psychological distress related to work life balance. Medication History: she was taking Traneximic acid, mefememic acid and

Amitriptyline on and off but no improvement seen. Patient was advised to stop all medicine before starting integrated yoga ayurveda intervention.

### Therapeutic focus and assessment

Individualized integrated yoga ayurveda module was developed with the existing scientific evidence. Intervention consisted of Cyclic meditation(CM), a 40 minutes moving meditation technique developed by S-VYASA university, banaglore. Once a day along with the ayurveda medications like Kanchanara Guggulu 250 mg two tablets, and Haridra Khanda 3 g were prescribed to take orally after meal at the interval of 12 hours with the milk for the duration of 20 weeks.

### Follow up and outcomes

Ultrasonography is the only diagnostic tool which is being used for the confirmation of diagnosis of uterine fibroid and to assess the results of management that's why the same was adopted during this case study. The patient was re-examined, and investigations were repeated periodically that revealed the reduction in both BMI and fibroid size. Clinically patient got improvement in all the gynecological complaints, which the particular patient had. During follow-up of the patients after 5 months; no recurrence was reported clinically as well as on USG. The response was noted in this case (Table1).

**Table -1**

Date	Fibroids size (USG findings)	BMI
13 October 2017	24 mm × 16 mm in posterior wall 22 mm × 12 mm in anterior wall	29
11 January 2018	13 mm × 6 mm in posterior wall 14 mm × 5 mm in anterior wall	27.5
20 march 2018	Normal study	27

BMI: (weight in kg/height in M<sup>2</sup>), M<sup>2</sup>: meter square, USG: Ultrasonography.

### Discussion

Still the specific cause of fibroid is remain uncertain. It is known that they are dependent upon oestrogen for their growth. Oestrogen is the female growth hormone and possibly human placental lactogen have been implicated on the growth of myomas. Myomas are rarely found before puberty and they generally cease after menopause. Sedentary lifestyle, low thyroid function may contribute to fibroid formation. Stress and sadness associated with issues of maternity and conception is also considered to be responsible for fibroid formation. Kanchanara Guggulu its main ingredients Kanchanara (*Bauhinia variegata* L.), Varuna (*Crataeva nurvala* Buch.-Ham.) supports proper function of the lymphatic system, balances Kapha Dosha, promotes elimination of inflammatory toxins; supports proper function of the lymphatic system, balances Kapha Dosha, promotes elimination of inflammatory toxins; it is alterative, anti-inflammatory and tonic and is

administered in cysts, malignant ulcers, syphilis, fistula, scrofula, sinus, etc., Kanchanara is very useful in extra growth or tumors and helps in reducing bleeding.<sup>11</sup> Haridra Khanda:(*Cucuma longa* L.) routinely used in Indian medicine, active component in this drug is Curcumin which poses properties like antioxidant and acts as a scavenger of free radicals<sup>12</sup>and has been shown to exhibit antimutagenic and anticarcinogenic activities in addition to the anti-inflammatory activity. Curcumin has also been shown to reduce cholesterol levels when given orally. Recently, curcumin has been shown to induce apoptosis-like changes in rat thymocytes. Curcumin has also been shown to inhibit cell proliferation thus affecting the cell cycle. Several mechanisms for curcumin action, like inhibition of protein kinase C and redox regulation, antitumor activity of curcumin by mediating through the induction of apoptosis in AK-5 tumor cells have been proposed<sup>12</sup>. Scientific studies on CM shows that, it appears to bring about a state of low physiological activation, with reduced oxygen consumption and a shift in the sympathovagal balance towards vagal dominance. A period of CM practice significantly reduces oxygen consumption and energy expenditure to a greater degree (32.1%) than a comparable period of supine rest. The CM practice has also been shown to decrease occupational stress levels and baseline autonomic arousal. The prolonged latencies of evoked potentials, generated within the cerebral cortex after the practice of CM, supported the idea of cortical inhibition after CM these findings suggests that practice of CM (i) reduces autonomic arousal, (ii) improves attention, and (iii) improves quality of sleep<sup>13</sup>. A study confirms that high BMI only increased the risk of uterine fibroids in women<sup>14</sup>. In a study its found that a 6-day yoga program decreased the BMI and the fat-free mass. Yoga is proven to be beneficial in the management of obesity by its holistic approach to the problem<sup>15</sup>. Recent evidence revealed the significant association between stress and fibroids, fibroids was only significant in the high stress group compared with those without an experienced event<sup>16</sup>, possible mechanism involves the stress effects on adrenal activity that could raise progesterone levels and thus increase fibroid development<sup>17</sup>. CM is a scientifically validated technique for stress management<sup>13</sup>.This suggests that an integrated yoga ayurveda intervention could be a safe conservative management for uterine fibroids. This study is a selective case study which raises the question of generalizability of the conclusions of this study, however further large sample long term follow up clinical study will only establish the hypothesis.

### **Suggested Approach to the Management of Uterine Fibroids**

Therapeutic options depend on the investigations, interdisciplinary discussions and patient choice, an integrated approach using both conventional and complimentary therapies is essential in providing holistic and safe and effective treatment<sup>19</sup>. Including lifestyle, diet, stress management, physical activity. It is best practice that the diagnosis of fibroids is established using conventional medicine.

### **Conclusion**

Although uterine fibroids presently are not well understood, many advances have been made in the understanding of the hormonal factors, genetic factors, growth factors, and molecular biology of these benign tumors. Integrating yoga and ayurveda were found to be very effective in relieving uterine fibroid in

this case study. A variety of complimentary and alternative therapies are available, and there is an urgent need to subject them to research rigour for clear understanding of underlying mechanistic pathways, patient's symptoms and needs are crucial in planning individualized therapies. An integrated yoga ayurveda model is likely to yield better patient outcomes and reduced health care costs.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

### References:

1. Dutta's D.C., Text book of Gynaecology, edited by Konrar. Hiralal, 6th edition, New Central Book Agency Ltd. Kolkata, Page No. 259.
2. Pratap K, Malhotra N. 7th ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2008. Jeffcoate's Principles of Gynaecology; p. 488.
3. Haney AF. Clinical decision making regarding leiomyomata: What we need in the next millenium. *Environ Health Perspect.* 2000;108(Suppl 5):835–9.
4. Gambone JC, Reiter RC, Lench JB, Moore JG. The impact of a quality assurance process on the frequency and confirmation rate of hysterectomy. *Am J Obstet Gynecol.* 1990;163:545–50.
5. Adam TC, Epel ES. Stress, eating and the reward system. *Psychol Behav.* 2007;91:449–58.
6. Dallman MF, Pecoraro N, Akana SF, la Fleur SE, Gomez F, Houshyar H, et al. Chronic stress and obesity: a new view of “comfort food”. *Proc Natl Acad Sci U S A.* 2003;100(11):696–701.
7. Ross RK, Pike MC, Vessey MP, Bull D, Yeates D, Casagrande JT. Risk factors for uterine fibroids: Reduced risk associated with oral contraceptives. *Br Med J (Clin Res Ed)* 1986;293:359–62.
8. Lumbiganon P, Rugsao S, Phandhu-fung S, Laopaiboon M, Vudhikamraksa N, Werawatakul Y. Protective effect of depot-medroxyprogesterone acetate on surgically treated uterine leiomyomas: A multicentre case-control study. *Br J Obstet Gynaecol.* 1996;103:909–14.
9. Marshall LM, Spiegelman D, Manson JE, Goldman MB, Barbieri RL, Stampfer MJ, et al. Risk of uterine leiomyomata among premenopausal women in relation to body size and cigarette smoking. *Epidemiology.* 1998;9:511–7.
10. Shikora SA, Niloff JM, Bistrrian BR, Forse RA, Blackburn GL. Relationship between obesity and uterine leiomyomata. *Nutrition.* 1991;7:251–5.
11. Brahmashankar Mishra., editor. 11th ed. Varanasi: Chaukhamba Sanskrit Sansthana; 2004. Bhavamishra, Bhavaprakasha, Guduchyadi Varga, 103-104; pp. 336–7
12. Ashok Khar A.Mubarak Ali B.V.V Pardhasaradhi Zareena Begum Rana Anjum. *FEBS Letters.* Federation of European Biochemical Societies. 445(1) :1873-3468.

13. Subramanya, P., & Telles, S. (2009). A review of the scientific studies on cyclic meditation. *International Journal of Yoga*, 2(2), 46–8.
14. Yuan He ; Qiang Zeng ; Sheng-Yong Dong ; Li-Qiang Qin ; Guo-wei Li ; Pei-yu Wang. Associations between Uterine Fibroids and Lifestyles Including Diet, Physical Activity and Stress: A Case-control Study in China. *Asia Pacific Journal of Clinical Nutrition* ; 22卷1期(2013 / 03 / 01) , P109 – 117
15. Telles S, Naveen VK, Balkrishna A, Kumar S..Short term health impact of a yoga and diet change program on obesity. *Med Sci Monit*. 2010 Jan;16(1):CR35-40.
16. Vines, Anissa I. et al. The Association Between Self-Reported Major Life Events and the Presence of Uterine Fibroids. *Women's Health Issues* , Volume 20 , Issue 4 , 294 – 298
17. Figueredo VM. The time has come for physicians to take notice: the impact of psychosocial stressors on the heart. *The American journal of medicine*. 2009;122(8):704–712.
18. Flake GP, Andersen J, Dixon D. Etiology and pathogenesis of uterine leiomyomas: a review. *Environmental health perspectives*. 2003;111(8):1037–1054.
19. Ham C, Curry N. Integrated care; The King's Fund 2011; kingsfund.org.uk. Accessed 03 February 2016.