

Non-surgical approach towards uterine fibroid and ovarian cyst with Yoga practice

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KEY WORDS

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ABSTRACT

A case of a 43 years old female with uterine fibroid and ovarian cyst was managed by an alternative, Non-surgical approach of yoga intervention. Yoga was practised under supervision daily twice a day for three months showed significant recovery from ovarian Cyst and reduction in uterine fibroid size. A diagnosis, where surgery was suggested as the only option, yoga has been found to be effective treatment modality in prevention and management.

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Introduction

Uterine fibroid referred to as uterine leiomyomata or uterine myomas are commonest benign uterine tumours developing in women in reproductive age (1). Most leiomyomas occur in the fundus and body of the uterus; only 3% occur in the cervix. They are most common towards the end of the reproductive years (2). Pathogenesis is not clearly known, though the role of oestrogen and progesterone has been documented in fibroid formation and tumour's growth (3,4). These tumours are rarely reported before menarche (5) and reduce after menopause (6). As per its location relative to uterus layers, tumours are classified- sub serous, intramural, and sub mucous.

Clinical manifestation of uterine fibroid is abnormal uterine bleeding, feeling of pelvic pressure, urine retention, painful micturition. They may be associated with infertility and miscarriage (7).

Ovarian cysts are the most common abnormality in women in reproductive age. Polycystic Ovarian Syndrome (PCOS) characterized by multiple small cysts in the ovary, after menarche, affects 5–10% of women of reproductive age and can be a cause of infertility (8). Studies show that more than 50% of patients with PCOS develop prediabetes or diabetes, and there is an increased risk of hypertension, anxiety, myocardial infarction (MI), dyslipidaemia, depression, endometrial cancer, and sleep apnoea (9).

Characteristics of PCOS include increased androgen levels, ovulation irregularities, and cysts in ovaries (10). Moreover, alopecia, hirsutism and acne are directly connected with

high levels of androgen, and the prevalence of polycystic ovaries on pelvic ultrasound exceeds 70% in patients with PCOS (11). Yoga is an ancient practice originated in India more than 5000 years ago as a comprehensive disciplined lifestyle to become aware about one's body, mind, spirit and their connection to transcend body's impurities by realising its own true nature (12).

Case presentation

A 43 years old female non-smoker, non-alcoholic, vegetarian, patient weight-56 kg, height-155 cm, from Sriganaga nagar, Rajasthan reported with diagnosis of uterine fibroid and cysts in left ovary. Patient was apparently normal when she got her regular monthly menstrual cycle which usually last 3–4 days but this time it lasts up to two weeks associated with heaviness in right side of abdomen and weakness in whole body. She consulted a gynaecologist and suggested ultrasonography which revealed fibroid on posterior wall of uterus measuring 15 × 12 mm and cysts in left ovary (Ovary size- 75 × 64 mm) (Figure 1).

Later gynaecologist prescribed her medicine and advised for surgery (Table-1).

Patient decided to go for yoga practices to deal with her illness, even her husband was not in favour of trying yoga practices because of her complaints as he wanted her to get rid of it through surgery.

On the same day patient contacted us, based on patient's complaints and after evaluation yoga therapeutic interven-



Fig. 1: Showing the ultrasonography which revealed fibroid on posterior wall of uterus measuring 15 × 12 mm and cysts in left ovary (Ovary size- 75 × 64 mm)

Table 1: Showing the different medications prescribed by the gynaecologist

S. No.	Medication	Duration
1	Chymoral forte	5 days
2	Mefenamic acid 250 mg + Tranexamic acid 500 mg	30 days
3	Ca++ supplements	30 days
4	Iron supplements	30 days

tion was planned. Next day patient started yoga practises with therapist, a brief introduction about yoga and its importance in our life was explained to patient. Lifestyle modification was suggested by yoga therapy consultant.

Method of Therapeutic intervention and assessment

Yoga therapy was designed twice a day morning and evening comprising *Asanas*, *pranayama* and chanting. Each session was of 100 minutes' session (45 min asanas and relaxation, 55 min *pranayama* and chanting. Yoga therapy was started with her comfort zone initially- slowly achieving posture, holding, and relieving posture takes ten seconds and slowly reached up to 20 seconds in 15 days where only holding *asana* time was increased, rest were same timing. Each posture was followed by relaxation of one minute.

Kapal bhati was given at pace of one stroke per second for 25 minutes with fix force of exhalation within patient's comfort zone throughout 3 months of Intervention. *Anulom vilom* (alternate nostril breathing) was given for period of 25 minutes where exhalation was longer than inhalation with application of *antah-kumbhak* (holding breath after inhalation) as per capacity. *Agnisar kriya* (flapping of abdomen) was done during *bahya-kumbhak* (holding breath after exhalation). Frequency of flapping was kept as per patient's capacity (Table-2 and Table-3).

Table 2: Yoga asanas for intervention

Yoga Therapy Practise for 3 months: Asanas			
S. No.	Practice	Duration of Practice	Frequency
1	Jogging	7 min	1
2	Forward-backward & side bending	2 min	1
3	Twisting	1 min	1
4	<i>Suryanamaskar</i> (combination of 7 postures in series of 10 steps)	60 seconds	15
5	<i>Tadasana</i> (Standing straight with feet together and raising arms upward direction by side of ears)	20 seconds	3
6	<i>Trikonasana</i> (feet apart, bending on one side, resting hand on same side of leg, straight up another arm upwards and fix eyes on fingers of upward hand)	20 seconds (each side)	3
7	<i>Naukasana</i> (lying in supine posture, raise up legs and torso together around 45-60 degree balancing body weight on pelvic)	20 seconds	3
8	<i>Setubandhasana</i> (lying on ground with folded knee joints, placing heel on ground, arms keeping down on ground with hands placing near heels, raise hips and back up keeping shoulder on ground)	20 seconds	3

Yoga Therapy Practise for 3 months: Asanas			
S. No.	Practice	Duration of Practice	Frequency
9	Marktasana (Lumbar stretch) lying on ground with folded knee joints together, arms open upside wards on ground, drop down legs on each side alternatively and neck on opposite direction to legs.	20 seconds (each side)	3
10	Bhujangasana (lying prone on ground with arms on side of chest, raise torso up with help of back muscle with minimum support of hands)	20 seconds	3
11	Dhanurasana (lying prone on ground, catch hold feet with hands by folding legs, try to raise legs up with help of hands as much as possible)	20 seconds	3
12	Relaxation	5 min	1

Table 3: Describing the various *Pranayama* techniques

<i>Pranayama</i>		
S. No.	Practice	Duration
1	Kapal Bhati (Forcefull exhalation and automatic inhalation, 1 stroke/sec)	25 min
2	Agnisaar Kriya (exhale forcefully, hold breath, flap abdominal muscles inside-out)	1 min
3	Anulom Vilom (inhale through left nostril, exhale from right, inhale from right and exhale from left side)	25 min
4	Bhramri (Humming sound resemble honey bee sound)	3 rounds (2 min)
5	Om Chanting	3 times (2 min)

Patient was advised allopathic medicine for 30 days, where she was regular on medication for first 15 days along with yoga therapy later as she got relief from her complaints and she stopped taking medicines and continued yoga therapy. After two months of yoga therapy practice, patient was feeling better clinically and got relief from gynaecological complaints. (Table-4) which made her enthusiastic, ultrasonography was repeated and found normal ovaries both side, size of uterine fibroid was reduced to 15 × 10 mm. She kept practicing yoga therapy for another month and after 3 months of yoga therapy practice repeat ultrasound was performed and ovaries were found normal with no cysts and size of uterine fibroid reduced to 8 × 7 mm. Comparison of size of uterine fibroid and cyst in ovary in Ultrasonography has been shown in (Table-5). Patient could not continue yoga practices further because of professional and personal commitments.

Table 4: Comparing the symptoms pre and post Yoga therapy

Symptoms				
S. No.		Pre	Post (after 15 days)	Post (after 3 months)
1	Abnormal Uterine bleeding	Present	Absent	Absent
2	Heaviness in right side of abdomen	Present	Absent	Absent
3	Weakness	Present	Absent	Absent

Table 5: Comparing the ultrasonography report pre and post Yoga therapy

Ultrasonography				
S. No.		Pre (13 Nov 2018)	After 2 months (13 Jan 2019)	After 3 months (1 Feb 2019)
1	Uterine fibroid	15 × 12 mm	15 × 10 mm	8 × 7 mm
2	Ovarian cysts	75 × 64 mm (Left Ovary)	Both ovaries are normal	Both ovaries are normal

Discussion

Patient is teacher by profession, balancing domestic responsibilities with professional work engaged her throughout the day in different tasks results in stressful events. Stress is a state of emotional or physical arousal occurs as per demands from various environment factors engaging in multiple tasks, causing pressure on capacity of individuals to adapt (13). Regulation of stress is controlled by HPA axis. HPA axis comprises hypothalamus, pituitary gland and adrenal glands. Their interaction controls reactions towards stress and regulates various body functions. Defects in the hypothalamic-pituitary axis, insulin secretion and its action, and ovarian function are involved in PCOS. Oestrogen and progesterone hormone levels can fluctuate because of stress that can result in uterine fibroid. Stress can cause activation of the hypothalamic pituitary adrenal axis and result in release of cortisol, a stress hormone (16).

Improvement in hormonal and biochemical changes related to H-P-O and H-P-A axis in polycystic ovarian syndrome has been observed through yoga practice (17). Yoga helps in cessation of sympathetic area of the hypothalamus and helps in optimizing sympathetic responses to stressful stimuli, and restores autonomic regulation associated with stress (18). Yogic practices cease areas responsible for rage, aggressiveness and fear which results in stimulation of the rewarding centres in the median forebrain and other areas, leading to a state of bliss/Happiness (19). Yoga therapy practices probably cease the activity of the paraventricular nuclei of the hypothalamus, which further promote the anterior pituitary gland to produce less ACTH. The decline in ACTH decreases the synthesis of cortisol from the adrenal glands. Various studies have been observed effect of yoga practices in decreasing cortisol levels (20,21).

Conclusion

This case study suggests that yoga could be safe conservative intervention for management of ovarian cyst and uterine fibroid. Patient could not be assessed follow-up as she could not continue yoga practices. This case study has shown reduction of clinical symptoms, size of fibroid and financially burden. However, a long-term follow-up and large sample clinical study require to understand underlying mechanism.

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Authorship contributions

PS has written the manuscript.

AS and JR contributed in treatment protocol.

CR contributed in implementing protocol for the patient.

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Informed consent

A written consent was obtained from patient to publish her case report.

Conflict of interest

The authors does not have any conflict of interest.

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