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Yoga and Naturopathy Intervention: A Case Study of Successful Fertility in Primary Infertility with Polycystic Ovarian Disease

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ABSTRACT:

Infertility is a common complication in women with Polycystic Ovary Syndrome (PCOS), often resulting from anovulation, hyperandrogenism, metabolic disturbances, and stress-related neuroendocrine dysregulation. Integrative therapies, including yoga and naturopathy, may complement conventional treatment by targeting physiological, metabolic, and psychological pathways. A 27-year-old woman with primary infertility for two years, irregular menstrual cycles, and mild acne was diagnosed with PCOS. Investigations revealed polycystic ovarian morphology on ultrasound. The patient underwent a structured one-week inpatient yoga and naturopathy intervention, followed by three months of continued integrated therapy, including yoga, dietary modifications, and naturopathic support. Post-intervention, the patient experienced regularized menstrual cycles, improved metabolic parameters, and enhanced psychological well-being. Conception was achieved within three months of continuing the integrated therapy. This case highlights the potential of yoga and naturopathic interventions as effective non-pharmacological strategies for managing infertility in women with PCOS, improving ovulatory function, metabolic health, and psychological resilience. Larger, long-term studies are needed to validate these findings and standardize treatment protocols.

KEYWORDS: Infertility, Integrative Medicine, Metabolic Health, Naturopathy, Ovulation, PCOS, Yoga Therapy.

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INTRODUCTION:

Infertility, affecting approximately 17.5% of individuals worldwide, is a common complication in women with Polycystic Ovary Syndrome (PCOS), primarily resulting from anovulation, hyperandrogenism, metabolic dysregulation, insulin resistance, and stress-related neuroendocrine disturbances. [1,2,3]. Pharmacological treatments can be effective but are often limited by side effects, adherence challenges, and failure to address psychosocial stress, which itself may further compromise fertility. [4]

Increasing evidence supports the use of integrative and non-pharmacological interventions — including yoga, diet, naturopathy, massage, acupuncture, and herbal therapy — as adjuncts to conventional infertility management in PCOS. Yoga has been shown to modulate autonomic balance, reduce cortisol levels, improve insulin sensitivity, and support weight management. [5,6,7] Dietary modifications and naturopathic interventions complement these effects by enhancing metabolic function, reducing inflammation, and normalizing endocrine signaling. [8,9,10,11,12] Massage and acupuncture may improve pelvic blood flow, modulate stress responses, and support reproductive outcomes, while herbal remedies provide endocrine, antioxidant, and insulin-sensitizing benefits. [9,12]

Mechanistically, these interventions target multiple interrelated pathways, including the hypothalamic–pituitary–ovarian (HPO) axis, hypothalamic–pituitary–adrenal (HPA) axis, insulin signaling, ovarian microenvironment, inflammatory and oxidative stress mediators, and autonomic balance. Together, they aim to improve ovulation, endometrial receptivity, oocyte quality, and overall psychological well-being in women with PCOS-related infertility.

CASE HISTORY:

Patient details:

An infertile woman visited our Government Yoga and Naturopathy Medical College and Hospital Inpatient Ward, Chennai. A female aged 27 years, displayed primary infertility, got married on 2022 at the age 25, trying to conceive for 2 years. The female patient complained about an irregular menstrual cycle and mild acne since 2020. They were given a detailed explanation of processes, benefits, and drawbacks. Informed consent was obtained from patient.

Medical/surgical history

No surgical intervention was taken by the couple in the past. The patient was clinically diagnosed with Polycystic Ovarian Syndrome PCOS via ultrasound findings. Oral clomiphene citrate was taken before 3 years for 6 months and she had no previous pregnancies prior to our treatment. She started trying to conceive at age 25, had no other remarkable health conditions like thyroid disorders, obesity etc. related to her condition.

Physical examinations:

According to established BMI categories, the female patient's body mass index (BMI) of 22.4 kg/m^2 falls within the normal weight range.

Investigations

To find out the primary cause of their infertility, female patient undergo extensive assessment.

Ultrasound findings revealed the presence of enlarged ovaries with multiple tiny follicules more than 10 follicles measuring 2–9 mm bilaterally in periphery and central echodense stroma presents. Volume of right and left ovaries were about 13.3ml and 12.1 ml respectively. Right ovary measures 2.94*1.86cm. Left ovary measures 3.13*2.07cm. (figure-1).

THERAPEUTIC INTERVENTION:

The patient was directed to be under yoga and naturopathy interventions to improve hormonal imbalance and enhance ovulatory function and overall metabolic function of the body. We executed this treatment plan for a total of 1 week

Yogic intervention:

Yoga intervention is a versatile treatment approach which benefits both physical and mental well-being and can be recommended to women with polycystic ovariansyndrome (PCOS).

Structured yoga intervention in infertility management will help to improve the QoL and to optimize prepregnancy metabolic parameters among infertile women with PCOS. [13]

The concepts for the yoga intervention were taken from traditional yoga scriptures that highlight a holistic approach to health management. (table 1)

Naturopathy intervention:

Naturopathy interventions including hydrotherapy, mud therapy, manipulative therapy, fasting, and natural diet therapy was taken from the available text references (table 1 and 2) . Naturopathy intervention was given for 7 days. Improving symptoms related to primary infertility and PCOS. These advantages are mostly ascribed to better hormonal balance, increased pelvic visceral circulation, and uterine preparation for pregnancy.[14]

Follow up:

After 3 months of follow up with lifestyle modifications like diet suggestions, yoga, sunbath, hip bath and other natural treatments which can be followed in home. A clinical pregnancy was confirmed by taking an ultrasound scan of the patient with last menstrual period at March 30_2025, impression showing the gestational sac around a 7 week old human embryo. Figure 2. The gestational sac forms around 5-7 weeks of last menstrual period. The patient was advised to visit regularly for follow-ups for a successful pregnancy.

The following yoga practices and naturopathic treatments were practiced under guidance and expert supervision Table-1.

Table -1: Yoga and Naturopathy Intervention:

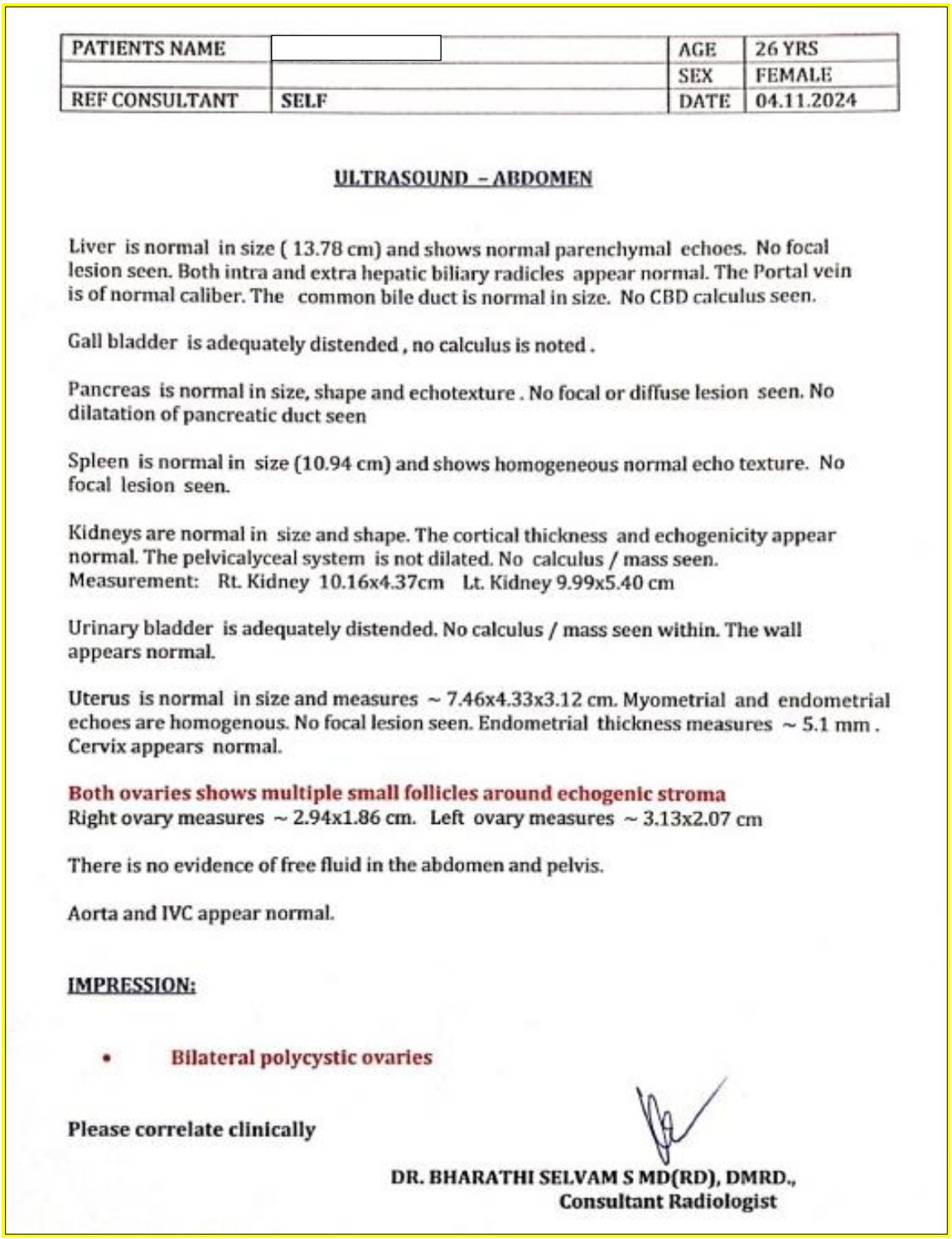
	Intervention			
	Yoga		**Naturopathy**	
Days	**Morning**	**Evening**	**Morning**	**Evening**
Day 1	*Pawanmuktasana* series 1 (each 3 rounds) *Shashangasana* (3 rounds) *Vajrasana* (3 rounds) *Nadi shodhana pranayama* (6 rounds)	*Bhujangasana* (3 rounds) *Artha titali asana* (rounds) *Vipareeta karani mudra* (1 minute - 2 rounds)	*Jala basti* (empty stomach) Partial massage _ abdomen Acupuncture (20 minutes) with moxa Conceptional vessel meridian massage Auriculotherapy therapy (uterus point at the base of triangular fossa of ear)	Castor oil pack Neutal hip bath (20 minutes) Seed therapy (pelvic point in between web space of ring and middle finger of dorsum of hand)
Day 2	*Pawanmuktasana* series -2 (each 3 rounds) *Paschimotanasana* (3 rounds) *Bhramari pranayama* (10 rounds)	*Baddha konasana* (3 rounds) *Parvatasana* (3 rounds) Sectional breathing (5 minutes) *Yoni mudra* (5 minutes)	Partial massage - abdomen Hot Fomention (10 minutes)- lower abdomen Acupuncture (20 minutes) with moxa Auriculotherapy (uterus point at the base of triangular fossa of ear)	Conceptional vessel meridian massage Neutral hip bath(20 minutes) Seed therapy (pelvic point in between web space of ring and middle finger of dorsum of hand)
Day 3	*Pawanmuktasana* series - 3 (3 rounds) *Artha titali asana* (5 rounds) *Marjariasana* (5 rounds) *Anuloma viloma* pranayama	*Setu bandasana* (5 rounds) *Vyaghrasana* (5 rounds) *Yoni mudra* (5 minutes)	Full body massage Foot reflexology (10 minutes) Acupuncture (20 minutes)with moxa	Hot foot bath (20 minutes) Conceptional vessel meridian massage Magnetic waist belt (15 minutes)

	Breath awareness(5 minutes)			
Day 4	*Pawanmuktasana* series -3 (5 rounds) *Shashang bhujangasana* (5 rounds) *Moola bandha* (3 rounds)	*Ushtrasana* (5 rounds) *Janu sirshasana* (3 rounds) *Bhairavi mudra* (5 minutes)	Steam bath (20 minutes) Acupuncture (20 minutes) with moxa Auriculotherapy (uterus point at the base of triangular fossa of ear)	Wet girdle pack (20 minutes) Foot reflexology massage with oil followed by warm foot bath for (20 minutes)
Day 5	*Surya namaskar* (3 rounds) *Pawanmuktasana* series -3 (5 rounds) *Kapalbhati pranayama*	*Vajrasana* (3 rounds) *Baddha konasana* (3 rounds) Deep relaxation techniques (10 minutes)	Sun bath (20 minutes) Fertility massage or pelvic massage Acupuncture (20 minutes) with moxa Auriculotherapy (uterus point at the base of triangular fossa of ear) Magnetic waist belt (15 minutes)	Cold hip bath (20 minutes) Conceptional vessel meridian massage Foot reflexology (10 minutes) Seed therapy (pelvic point in between web space of ring and middle finger of dorsum of hand)
Day 6	*Surya namaskar* (5 rounds) *Pawanmuktasana* series -3 (each 5 rounds) *Bhramari pranayama* (10 rounds)	*Vipareeta karani mudra* (5 minutes) *Pawanmuktasana* series -2 (each 5 rounds) *Moola bandha* (3 rounds) Sectional breathing (5 minutes)	Full mud bath (20 minutes) Acupuncture (20 minutes) with moxa Auriculotherapy (uterus point at the base of triangular fossa of ear) Magnetic waist belt (15 minutes)	Castor oil pack Hot foot bath (20 minutes) Conceptional vessel meridian massage Seed therapy (pelvic point in between web space of ring and middle finger of dorsum of hand)
Day 7	*Surya namaskar* (6 rounds) *Pawanmuktasana* series -3 (each 3	*Setu bandasana* (5 rounds) *Artha titali asana* (5 rounds)	Plaintain leaf bath(20 minutes) Acupuncture (20	Fertility massage Wet girdle pack (20 minutes) Conceptional

	rounds) *Moola dhara chakra* meditation (15 minutes)	*Yoni mudra* (5 minutes) Sectional breathing (5 minutes)	minutes with moxa) Magnetic waist belt (15 minutes)	vessel meridian massage (Foot reflexology 10 minutes)

Table 2 (Diet during intervention period)

DAY	7 AM	9 AM	12 PM	1:30 PM	4 PM	7 PM
Day 1	Ash Gourd (200ml)	Sprouts (25g)+Veg Salad (200g)+Fruit Salad(200g)	Grapes Juice (200ml)	Sprouts(50g)+ Fruit Salad(200g)	Curry Leaf Coriander Mint Juice (200ml)	Veg Salad (200g)+Fruit Salad(200g)
Day 2	Bottle gourd (200ml)	Sprouts (25g)+Veg salad(200g)+ Fruit salad(200g)	Guava Juice (200ml)	Sprouts(50g)+ Fruit salad(200g)	Lemon Amla Juice (200ml)	Veg Salad (200g)+Fruit Salad(200g)
Day 3	Plantain pith (200ml)	Sprouts (25g)+Veg salad(200g)+ Fruit salad(200g)	Grapes Juice (200ml)	Sprouts(50g)+ Fruit salad(200g)	Curry Leaf Coriander Mint Juice (200ml)	Veg Salad(200g) +Fruit Salad(200g)
Day 4	Bottle gourd (200ml)	Sprouts (25g)+Veg salad(200g)+ Fruit salad(200g)	Water Melon Juice (200ml)	Sprouts(50g)+ Fruit salad(200g)	Amla Juice (200ml)	Veg Salad(200g) +Fruit Salad(200g)
Day 5	Ash Gourd (200ml)	Sprouts (25g)+Veg salad(200g)+ Fruit salad(200g)	Guava Juice (200ml)	Spicy Sprouts(50g)+ Sweet Aval(200g)	Lemon Juice (200ml)	Veg Salad(200g) +Fruit Salad(200g)
Day 6	Plantain pith (200ml)	Sprouts (25g)+Veg salad(200g)+ Fruit salad(200g)	Mush melon juice (200ml)	Spicy Sprouts(50g)+ Sweet Aval(200g)	Curry leaves, coriander and mint juice (200ml)	Veg Salad(200g) +Fruit Salad(200g)
Day 7	Bottle gourd (200ml)	Sprouts (25g)+Veg salad(200g)+ Fruit salad(200g)	Papaya juice (200ml)	Spicy Sprouts(50g)+ Sweet Aval(200g)	Amla juice. (200ml)	Veg Salad(200g) +Fruit Salad(200g)



PATIENTS NAME		AGE	26 YRS
		SEX	FEMALE
REF CONSULTANT	SELF	DATE	04.11.2024

ULTRASOUND – ABDOMEN

Liver is normal in size (13.78 cm) and shows normal parenchymal echoes. No focal lesion seen. Both intra and extra hepatic biliary radicles appear normal. The Portal vein is of normal caliber. The common bile duct is normal in size. No CBD calculus seen.

Gall bladder is adequately distended , no calculus is noted .

Pancreas is normal in size, shape and echotexture . No focal or diffuse lesion seen. No dilatation of pancreatic duct seen

Spleen is normal in size (10.94 cm) and shows homogeneous normal echo texture. No focal lesion seen.

Kidneys are normal in size and shape. The cortical thickness and echogenicity appear normal. The pelvicalyceal system is not dilated. No calculus / mass seen.
Measurement: Rt. Kidney 10.16x4.37cm Lt. Kidney 9.99x5.40 cm

Urinary bladder is adequately distended. No calculus / mass seen within. The wall appears normal.

Uterus is normal in size and measures ~ 7.46x4.33x3.12 cm. Myometrial and endometrial echoes are homogenous. No focal lesion seen. Endometrial thickness measures ~ 5.1 mm . Cervix appears normal.

Both ovaries shows multiple small follicles around echogenic stroma
Right ovary measures ~ 2.94x1.86 cm. Left ovary measures ~ 3.13x2.07 cm

There is no evidence of free fluid in the abdomen and pelvis.

Aorta and IVC appear normal.

IMPRESSION:

- **Bilateral polycystic ovaries**

Please correlate clinically

DR. BHARATHI SELVAM S MD(RD), DMRD.,
Consultant Radiologist

Figure 1: USG report Before Treatment

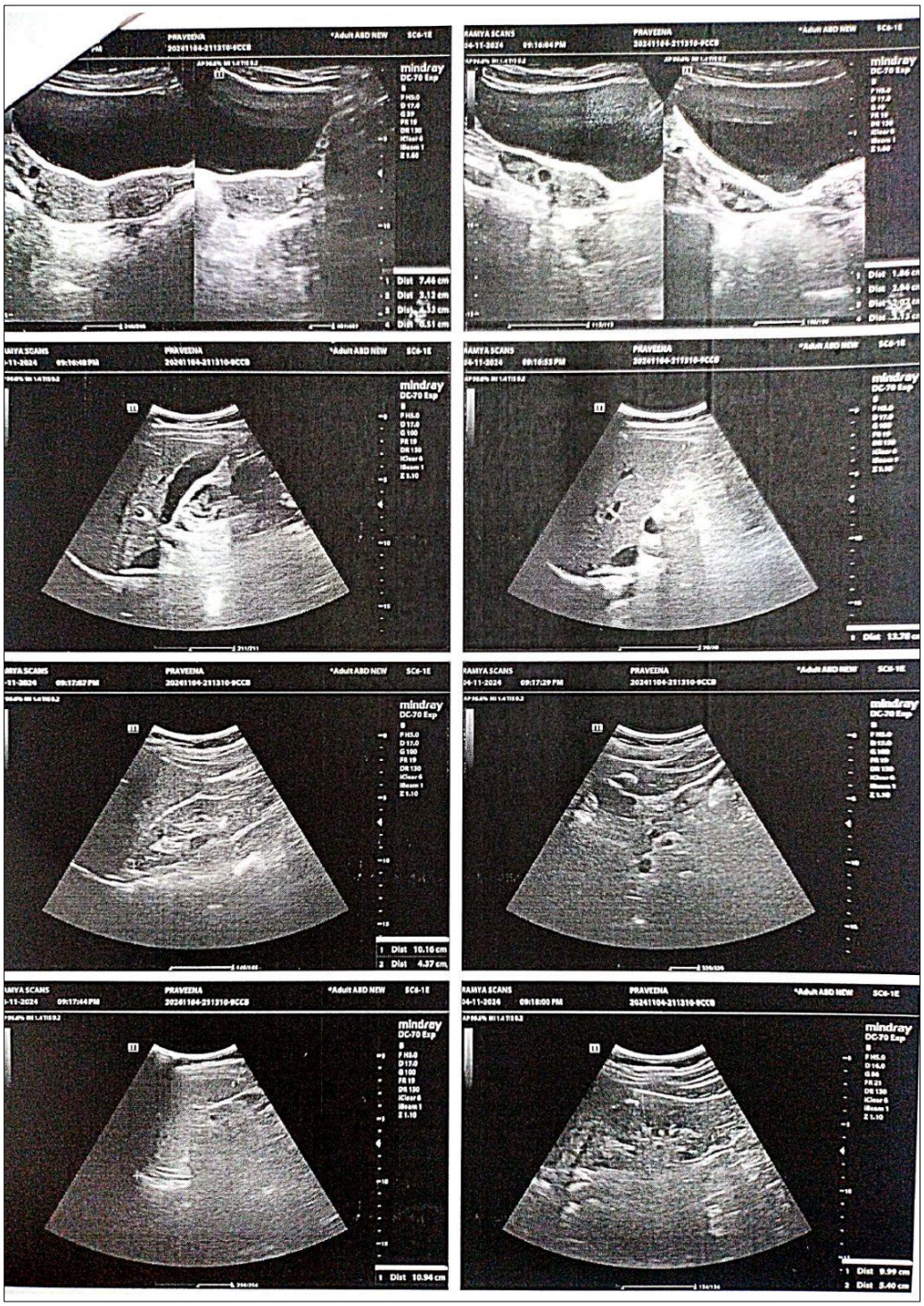
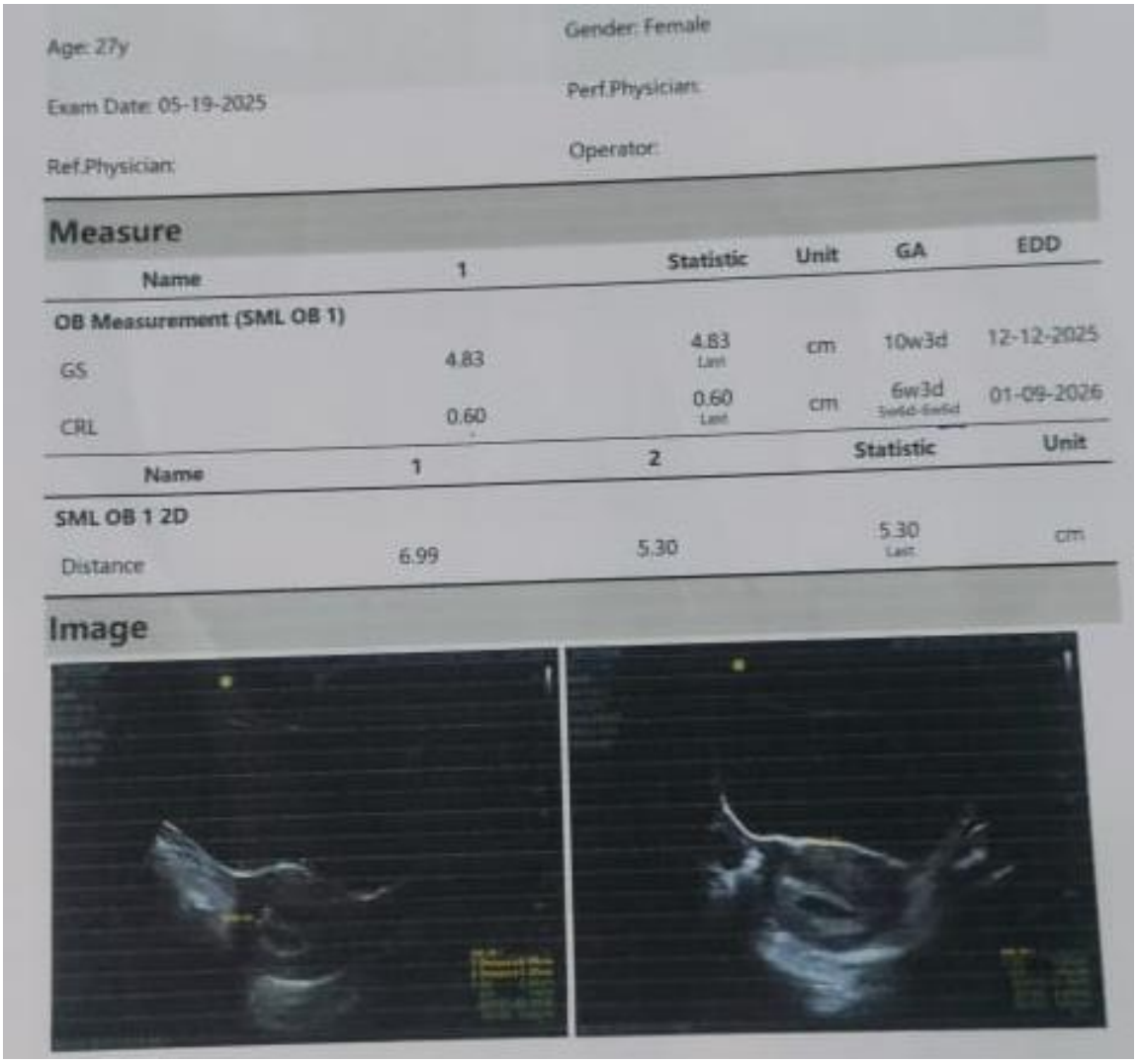


Figure 2: USG report after Treatment



Age: 27y
Gender: Female
Exam Date: 05-19-2025
Perf.Physician:
Ref.Physician:
Operator:

Measure

Name	1	Statistic	Unit	GA	EDD
OB Measurement (SML OB 1)					
GS	4.83	4.83 Last	cm	10w3d	12-12-2025
CRL	0.60	0.60 Last	cm	6w3d 5w6d-6w6d	01-09-2026

Name	1	2	Statistic	Unit
SML OB 1 2D				
Distance	6.99	5.30	5.30 Last	cm

Image

Figure-3: USG report after conception



Age / Sex : 30 Y / Male
Ref By : JAYASAKTHI X-RAY & LAB-THIRUVOTTRIYUR
Source : Dr.SUKANYA SATISH.M.B.B.S.DGO
Sample Collected And Sent
Received Date
Reported Date : 04/02/
Page 1 / 2

Test Name		Units	Biological Reference Range
	REPORT		
CLINICAL PATHOLOGY			
SEMEN ANALYSIS			
Method Of Sexual Abstinence	: Masturbation		
MACROSCOPIC EXAMINATION			
Colour	: Greyish white		Greyish white
Volume	: 2.0		
Reaction	: Alkaline		Alkaline
Viscosity	: Normal		Normal
MICROSCOPIC EXMINATION			
Total Sperm Count	: 70	million/ml	40 - 140.0 millions / ml
Motility	: 70 % (Active 50 %, Sluggish 20 %)		
Active Motile	: 50	%	
Sluggish Motile	: 20	%	
Non Motile	: 30	%	
MORPHOLOGY	: Normal - 90 % Head piece - 06 % Neck / Mid piece - 02 % Tail piece - 02 %		
Pus Cells	: 1 - 2		
Epithelial Cells	: NIL		
RBC	: 0 - 1		
CHEMICAL REACTION			

Dr.G.A.VASUGI, MBBS, MD, DNB
(PATH)
Pathologist

Contd

Figure-4: Semen analysis report

DISCUSSION:

One week structured yoga and naturopathy intervention and 3 month follow up was conducted on a primary infertile woman aged 27 years. On regular practice of yoga, modification of diet and regular naturopathy interventions for three months the patient was conceived. Yoga interventions, through structured *asanas, pranayama*, relaxation, and meditation, act on multiple pathways. Physiologically, yoga reduces sympathetic overactivity, enhances parasympathetic tone, and lowers cortisol levels, restoring HPO axis function, normalizing gonadotropin secretion, and improving ovulation. [5,6] Metabolically, yoga enhances insulin sensitivity, reduces hyperinsulinemia, lowers serum lipids, and promotes weight control, thereby mitigating hyperandrogenism and improving ovarian morphology. [7] Psychologically, yoga improves

mindfulness, emotional regulation, and coping with infertility-related stress, which positively influences reproductive outcomes by reducing stress-induced endocrine and metabolic disruption. [5,7,13]

Dietary and naturopathic interventions complement these effects by modulating metabolic and inflammatory pathways. Low-glycemic, anti-inflammatory diets, combined with regular physical activity and caloric management, improve insulin resistance, reduce adiposity, and normalize endocrine signaling. [8,10] Naturopathic practices, including hydrotherapy, mud therapy, and relaxation techniques, may reduce oxidative stress and systemic inflammation, both of which are implicated in follicular arrest, hyperandrogenism, and adverse ovarian morphology. [11,12, 14]

Massage therapy and acupuncture target both physiological and psychological dimensions of infertility. Abdominal or pelvic massage improves blood flow to reproductive organs, reduces sympathetic tone, and alleviates stress-induced hormonal disruption. [12]Acupuncture modulates the autonomic nervous system, increases uterine and ovarian perfusion, stimulates neuroendocrine mediators, and may reduce inflammatory cytokines, thereby potentially enhancing implantation, ovulation, and overall reproductive outcomes.[9,12, 15] Both therapies provide psychological support, fostering emotional resilience and a sense of control during fertility treatment. [9,15]

Acupuncture may improve ovulation in PCOS by **modulating the hypothalamic–pituitary–ovarian (HPO) axis**, normalizing GnRH, LH, and FSH secretion, and restoring ovulatory cycles. It reduces **sympathetic overactivity and cortisol levels**, improving autonomic balance and stress regulation. Local **ovarian and pelvic blood flow** may be enhanced, supporting follicle development and endometrial receptivity. Acupuncture also influences **neurotransmitters and endogenous opioids**, modulates inflammatory cytokines, and may reduce hyperandrogenism and insulin resistance, collectively promoting reproductive and metabolic balance in PCOS.[16]

The holistic approach integrates dietary modification, physical activity, yoga, stress management, and herbal therapy to simultaneously target metabolic, endocrine, inflammatory, and psychosocial contributors to infertility. Such synergy may improve adherence, reduce side effects, and provide sustainable benefits beyond pharmacological treatment alone.

Mechanistically, these interventions converge on key systems implicated in PCOS-related infertility: HPO and HPA axes, insulin signaling pathways, ovarian microenvironment, inflammatory and oxidative stress mediators, and autonomic balance. By modulating these interrelated pathways, integrative therapies can improve ovulation, oocyte quality, endometrial receptivity, and psychological well-being, ultimately supporting reproductive success. While

current evidence is promising, most studies are small, heterogeneous, or short-term, highlighting the need for larger randomized controlled trials to validate efficacy, standardize protocols, and confirm long-term fertility outcomes.

CONCLUSION:

Following a yoga and naturopathy intervention for one week on admission at inpatient department, the patient symptoms were improved and there was significant reduction in weight and BMI. A follow up patient record was maintained, the menstrual cycle was regularised. The patient was conceived in three months after following continuous yoga and naturopathic interventions. This indicates that yoga and naturopathic interventions can be used as an effective non-pharmacological strategy for treating infertility aiding in natural conception.

Limitations of the study:

Long-term studies with a large number of patients are needed to establish Yoga and naturopathy as the treatment modality for infertility.

Patient perspective :

The patient self-reported feeling of wellness during and following the 14 days inpatient treatments. She found the therapies easy to adapt and follow. She felt comfortable with her body and continued to follow-up yoga and naturopathic interventions.

Informed consent of patient:

An informed written consent was obtained from the patient for reporting this case.

She underwent Integrated Yoga and Naturopathy (IYN) for two weeks.

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Conflict of interest: The author declares that there is no conflict of interest.

Guarantor*:* The corresponding author is the guarantor of this article and its contents.

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