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Ayurvedic Management of Multifactorial Female Infertility: A Case Report

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ABSTRACT

Introduction: Infertility is a medical condition that can cause psychological, physical, mental, spiritual, and medical detriments to the patient. "Infertility is defined as failure to conceive within one or more years having regular unprotected coitus. All types of female Infertility in Ayurveda are described under the heading of *Vandhya*. According to *Acharya* Sushruta, there are four factors responsible for creation of *Garbha* i.e. *Ritu* (Ovulatory period/ period for copulation), *Kshetra* (reproductive tract including Uterus, Fallopian tube, Ovary), *Ambu* (Nutritive fluid for fertilized ovum), *Beeja (Shukra & Shonita* i.e. Sperm & Ovum). Among these four factors tubal blockage can be considered as the deformity of *Kshetra* i.e. *Kshetradushti* and Low level of Anti mullerian hormone can be compared to *Dhatukshayajanya Vandhyatav.*

Aim and Obejctive: This case study was done to treat multifactorial female infertility with *Ayurvedic* treatment protocol and provide better quality of life.

Methodology: A female Patient of 28 years of age, came to OPD of Prasuti Tantra Evum Stree roga with complaint of inability to conceive since 2 years of unprotected intercourse. Patient was diagnosed with female infertility due to bilateral tubal blockage, and low AMH level treated by *Ayurvedic* intervention i.e. - *Virechana Karma*, *Yuktaratha Basti* (3 days) along with *Uttarabasti* with *Apamargkshara Taila* (6 days) and *Nagakesara Choorna* orally (after stopping of menstrual bleeding)**.**

Result: Female infertility cured after treatment and conception achieved.

Discussion: *Ayurvedic* approach would be beneficial in conservative management of tubal blockage and has an effective result in female infertility.

Keywords: Female infertility, Fallopian tubes blockage, *Virechana*, *Uttarabasti*, AMH

Introduction

Infertility is a global problem in the field of reproductive health. It though not a physically disabling disorder has far reaching psychological and social consequences. According to recent study of WHO, around 17.5% of the adult population – roughly 1 in 6 worldwide – experience infertility.[1] In India, 3.9 to 16.8% of female suffers from primary infertility. Nearly 15% of couples worldwide are suffering from infertility in developing countries.[2] Among responsible factors of Female infertility, the tubal blockage is the 2nd highest affecting around 25-35% of population and difficult to treat. Peri-tubal adhesions, previous tubal surgery,salpingitis etc are the common causes of tubal blockage.[3] Tubal reconstructive surgeries and invitro fertilization are only alternative management but that are unable to provide satisfactory results. In the ovary AMH is secreted from the granulosa cells of pre antral and small antral

follicles. AMH has the potential to predict future reproductive lifespan and is therefore considered to be the best endocrine marker for assessing age-related decline of ovarian pool in healthy women.[4]

Ayurveda has explained *Vandyatva* as equivalent for infertility. It is one among *Ashiti Vata Vikaras* (80 types of *Vatika* disorders)[5]. *Acharya* Sushruta include *Vandhya* in *Yonivyapada* and also given in *Artava-Vaha Srotasa Viddha Lakshanas*.[6][7] According to Harita *Vandhyatva* is failure to get a child rather than conception. He has described six types of *Vandhyatva*.[8]

1. *Kakavandhya* (one child sterility)
2. *Anapatya* (Primary infertility)
3. *Garbhasravi* (Recurrent abortion)
4. *Mritavatsa* (Stillbirth)
5. *Balakshaya* (loss of strength)
6. *Vandhya* due to *Balya Avastha*, *Garbhakoshabhanga* and *Dhatukshaya*

Here the clinical condition can be better correlated with *Strivandhyatva* (female infertility) due to *Artava Bija Vaha Srotorodha* (obstruction in fallopian tube) and due to *Dhatukshaya*. Fallopian tubes are very important structures of *Artavavaha Srotas* (reproductive tract) as they carry *Beeja Roopa Artava* (ovum & sperm). Vitiation of *Vata* and *Kapha Dosha* are responsible for *Srotorodha* (obstruction) in fallopian tube ultimately results infertility due to tubal blockage. *Agni Deepana* and *Srotovishodhan* supports proper *Dhatu* formation and normalize the vitiated *Vata-kapha Dosha* which leads to restoration of tubal function and easy conception. It can be achieved through proper *Ayurvedic* management.

Case Report

A female Patient of 28 years of age, came to OPD of Prasuti Tantra Evum Stree Roga, with complaint of inability to conceive since 2 years of unprotected intercourse.

At 25 years of age she was married to a non-Consanguineous man of 27 years on 2019. They tried to conceive since then but failed. Hence in 2021 they consulted an allopathic gynecologist. Investigations were carried out on both partners. Her follicular study revealed oligo-ovulation and development of follicular cysts. On HSG (Hysterosalpingography) bilateral cornual blockage was detected. Semen analysis of male partner was normal. One IUI(Intra Uterine Insemination) was done along with medicines for necessary hormone correction but that was found to be unsuccessful.Then they referred to a reputed infertility centre for further treatment. Routine investigations were carried out there which revealed low AMH level (0.508 ng/ml). Due to low AMH and bilateral cornual blocakage they were advised to go for IVF (In Vitro Fertilization). As the couple was not willing for IVF, they visited our outpatient department on 14th June 2022 for *Ayurvedic* treatment.

From case history it was known that she had regular menstural cycle with the duration of 3 days and 24-25 days of interval. The amount was scanty since menarche. Her obstetric history was nill. Her personal history revealed a regular bowel habit and sound sleep. She had not any surgical history. Family history was negative for any premature ovarian failure or low AMH.

Physical Examination

Her general condition was good with pulse rate 78/mins, respiratory rate was 16/mins and blood pressure was 118/74mmhg. No abnormality was noted after a detailed systemic examination. She is of *Vata Kapha Prakriti* with *Madhyama Satva* (moderate mental strength) and *Madhyama Koshtha* (moderate bowel).

Local Examination

On examination, the vulva was found healthy with no any local lesion or growth**.** Per- Speculam examination showed a healthy nulliparous cervix without any significant abnormality. Bimanual examination revealed an anteverted mobile uterus with no cervical motion tenderness.

Investigations

Haematological: on dated - 15/12/2022

Hb	-	12.3 gm %,
BGRH	-	B positive
Other	-	WNL
HIV, HCV, HbsAg, VDRL	-	Negative
BT	-	1min 35 sec
CT	-	2min 30 sec
Thyroid profile	-	WNL

Anti Mullerian Hormone (24/03/23) - 0.508 ng/ml

Urine routine and micro - Normal study

USG – TVS(Trans Vaginal Sonography):

Ut:

Ante verted normal

Right ovary	-	Normal
Left ovary	–	A Follicular cyst (28*24 mm),
ET	-	8mm on 16th day of menstruation

HSG on dated (18/09/2021): Bilateral Cornual Blockage

Husband Semen Analysis (24/02/2021)

Liquefaction within	-	20 minutes
Fructose	-	present
Reaction	-	Alkaline
Total sperm count	-	72 mill/ml

Motility

Active Motile	60 %
Sluggish Motile	10%
Non motile	35%

Nidanas:

Aharaja *- Guru, Abhishyandi , Ruksha, Tikshna, Ushna , Vidahi Tikta, Katu, Kashaya Rasa Pradhana Ahara.*

Viharaja *- Vega Vidharana, Ratri Jagarana, Divasvapna*

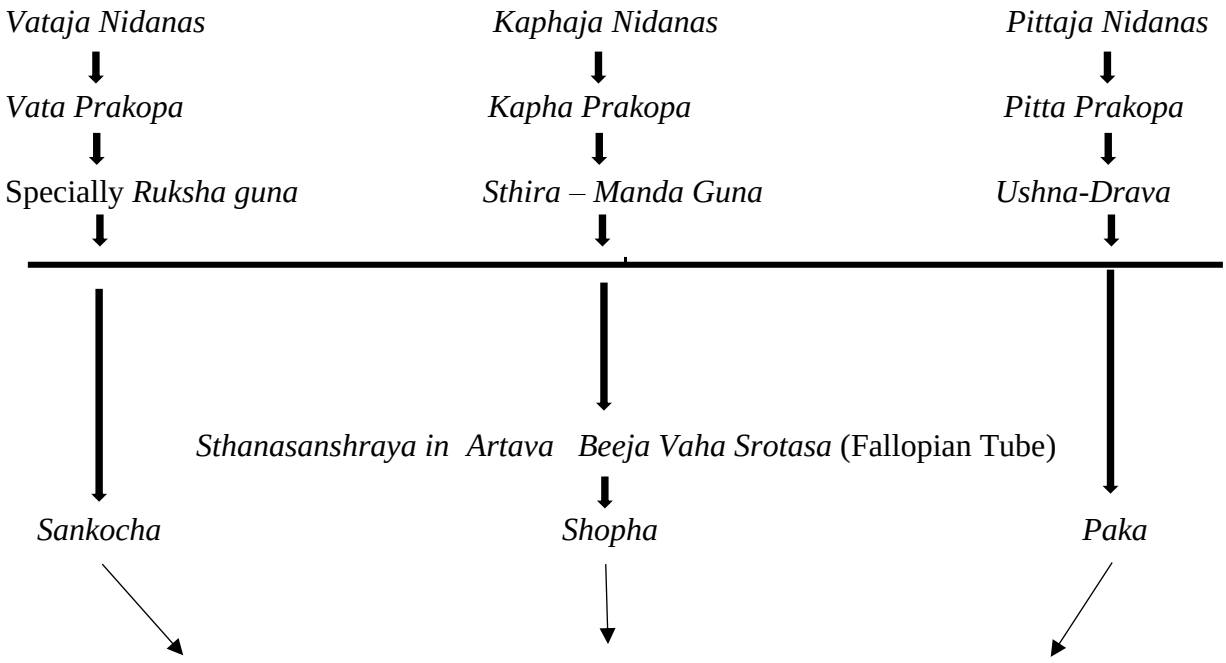
Manasika *- Bhaya, Shoka, Chinta, Krodha*

SAMPRAPTI (PATHOGENESIS)

- ***Dosha*** - *Vatapradhana Tridosha*
- ***Dushya*** - *Rasa, Rakta, Artava*

- ***Agni*** - *Jatharagni, Dhatvagni*
- ***Srotasa*** - *Artavavaha (Artava-Bija-Vaha)*
- ***Udbhavasthana*** - *Pakvashaya*
- ***Srotodushti*** - *Sanga*
- ***Sthana Samsraya*** - *Artava Vahi Dhamani (Fallopian tubes), Beejakosha, Yoni*
- ***Roga Vinishchaya*** - *Vandhyatva*
- ***Sadhyasadhyata*** - *Krichsadhya*

Nidana Sevana
↓
Vitiation of *Jataragni*
↓
Improper *Aharapachana*
↓
Improper formation of *Ahara Rasa*
↓
Rasa Dhatu Kshaya
↓
Artava Dhatu Kshaya and *Utrotratara Dhatu Kshaya*
↓
Vandhyata



Therapeutic intervention

Details of therapeutic intervention shown in table 1

Nidana Parivarjan* as well as *Pathya Palana

↓

Virechana

↓

Yukthratha Basti

↓

Uttar Basti

↓

Shamana Aushadha

Follow-up and Outcome

Within 3 months of treatment, she got conceived in March 2023. Her LMP was 02/02/2023 and urine pregnancy test was found to be positive on 05/03/23. She underwent USG on 09/03/23 which suggested that there is a single live intrauterine gestation, the yolk sac with fetal pole was seen with GA of 6.1weeks. After that normal antenatal care was given to patient. Detailed anomaly scan and growth scan was done and no any gross anomaly detected. After Following normal antenatal regimen, she delivered a healthy female baby on 01/11/ 2023.

Discussion

The incidence of infertility is increasing by changed life style in urban India i.e. irregular working hours, late marriage, sedentary lifestyle, professional and social stress on young couples, genetic disorders. Four essential factors described by Acharya Sushruta are *Ritu*, *Kshetra*, *Ambu*, and *Beeja*.[9] For healthy progeny, health of mother is the basic need as these essential factors depend upon normal status of female. Anyhow hampering/ insufficiency of these four factors may interfere the process of healthy conception and can be causative factor of *Vandhyatva*. *Acharya* Charaka first innumerates all the diseases and then establishes the fact that diseases are innumerable . Tubal blockage is one such disorder. All the three *Doshas* are responsible for tubal blockage & infertility. But the role of *Vata* has certainly an edge over the other two. And it was the reason why *Acharya* Kashyapa mentioned *Vandhyatva* as *Nanatmaja Vikara* of *Vata.* Role of other *Doshas* cannot be neglected in causing tubal blockage. *Kapha* has *Avarodhaka* property which leads to occlusion of tubal lumen. This clarifies the relation of *Kapha* with tubal block especially when it is more structural than functional. The role of *Pitta*, either more or less cannot be denied in generation of tubal blockage. Tubal blockage, in most of the cases, is the outcome of previous reproductive tract infection. *Pitta* is the main responsible *Dosha* for *Paka*, and thus, one of the responsible factors for tubal infertility too. As previously mentioned, the pathogenesis of Tubal Blockage the treatment protocol for the patients, local administration of some drugs with *Lekhana*(scraping) properties seems to be of great use for clearing of blockage. The only way is to address the problem at its root by *Srotoshodhana*, *Agnideepana* and *Vatanulomana* are the main principles to be achieved.

Vaishvanara Choorna having *Dipana*(appetizer) and *Pachana*(digestive) properties helps in *Agni Vardhana (*enhancing digestive fire), which in turn corrects *Dhatu Parinama (transformation* of *Dhatu).*

Virechana: *Virechana* helps in attaining *Agni Dipti* and *Sroto Vishuddhi (*purification of channels) and hence supports the proper *Dhatu* formation.

Virechana (Samshodhana therapy) is a bio cleansing method of micro channels (minute *Srotasa).* Fallopian tube can be correlated with micro channel related to *Artavavaha Srotas.* So any obstruction in

fallopian tube can be removed by *Virechana Karma.* It is not only clearing *Srotasa,* but also increasing the potency of ovum and sperm for fertilization, so increasing the conception capability *Virechana* is included in this protocol.

Basti Karma: *Basti* was given to the patient for the purpose of *Vata Anulomana, Vrishya* and *Stroto Shodhana*. As tubal blockage is a disorder of *Apana Vayu Kshetra* and *Basti* is thought to be best treatment for *Vatika* disorders. According to *Acharya* Vagabhatta, *Uttarabasti* should be applied after giving 2-3 *Niruhabasti.*[10]. *Yuktaratha Basti* is a type of *Niruhabasti* which was selected in which patient can travel even after administration of *Basti.* [11]

Uttarabasti: *Uttarabasti* [Intra Uterine *Uttarabasti* (IUUB)] with various medicated oil / *Ghee* is a unique procedure mentioned in Ayurveda especially for the treatment of all gynecological disorders i.e. *Vandhyatva, Artavadusti* and other *Yoni Roga* where other treatments fail. *Uttarabasti* acts on endometrium, increases receptivity of endometrium and facilitate ovulation and nidation of fertilized ovum.

Apamarga Kshara Taila[12]: As it is already mentioned, that tubal blockage has been considered as the *Tridoshaja* condition dominantly *Vata-Kapha Dosha*. The drug assumed as effective to open the fallopian tube was considered to have *Vata kapha Shamaka* & *Tridoshaghna* properties. Local administration of any drug containing *Sukshma, Laghu, Sara, Vyavayi, Vikasi, Pramathi* etc. *Guna, Katu Vipaka* & *Ushna Virya* can be assumed to have some effective role in removing tubal blockage. *Apamarga-Kshara Taila* works with its *Tikshna* & *Vata-Kapha Shamaka* properties in removal of blockage.

***Nagakesara Choorna*:** *Nagakesara* having *Tikta, Kashaya Rasa, Ruksha,Ushna Guna,* and *Vata-Kaphahara* properties. Due to its *Ushna Virya* it performs *Deepan, Pachan* and *Srotoshodhan Karma* which further leads to *Samyaka Rasadi Dhatu Nirmana* resulting in *Samyaka Artava Nirmana* or *Beeja Nirmana.*

Conclusion:

Though there are no direct references for Tubal blockage one can understand the *Dosha, Dushya* and *Srotho Dushti Lakshana* and the right type of treatment protocol can be advised. In contemporary medicine, management includes hormonal correction, ovulation induction and ART (Artificial Reproductive Techniques). Most of the patients with infertility due to tubal blockage and low AMH end up with IVF(In-vitro Fertilization) management. The aim is to enhance the proper functioning of reproductive system by providing natural and effective medicines. The study shows significant results in the management of infertility due to tubal blockage. This treatment protocol helps in opening of tubes, improve ciliary movement, improve receptivity of endometrium & potency of ovum and overall improve hormonal balance. So, it can be concluded that *Ayurvedic* approach would be beneficial in preventive & conservative management.

Table 1 Therapeutic Intervention:

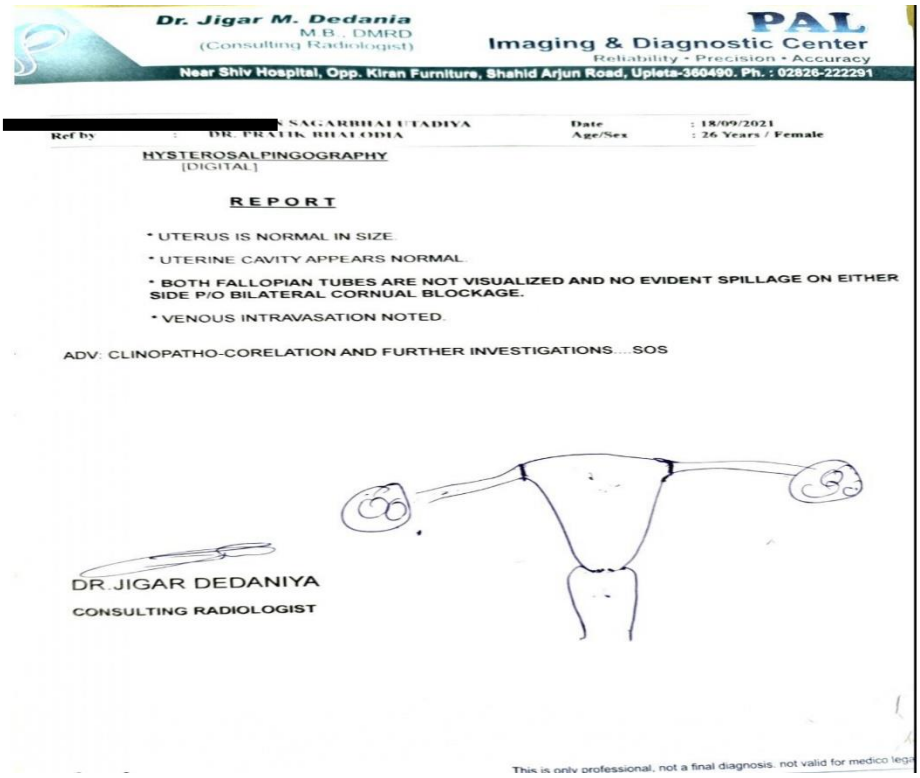
Date	Procedure	Drug	Dose	Route of administration	Duration
12/12/2022-16/12/2022	*Deepana Pachana*	*Vaishwanara Choorna*	3 gm twice a day,	Oral	5 days

			Before meal with lukewarm water		
17/12/2022-21/12/2022	*Snehapana*	*Goghrita*	1st day-30 ml 2nd day-60 ml 3rd day-90 ml 4th day-120 ml 5thday - 150 ml	Oral	5 days
22/12/2022 25/12/2022	*Sarvanga Abhyanga-Swedana*	*Abhyanga* with *Bala Taila* *Sarvang Swedana* with *Dashamoola*	-	_	4 days
25/12/2022	*Virechana Karma*	*Trivruta Avaleha +Triphala kwatha(Q.S)*	60gm	Oral	1 day
09/01/2023-11/01/2023	*Yuktaratha Basti*		Once a day before food	Rectal	3 days
9/01/2023-14/01/2022	*Uttarbasti*	*Apamargakshara Taila*	5ml	Intra Uterine	6 days
09/01/23-02/02/23	-	*Nagkeshara Choorna*	6gm once a day with 250 ml milk	Oral	24 days
06/02/23-08/02/23	*Yuktaratha Basti*	Conent mentioned in table no. 2	Once a day before food	Rectal	3 days
06/02/23-11/02/23	*Uttarabasti*	*Apamargakshara Taila*	5ml	Intra Uterine	6 days
06/02/23-09/03/23		*Nagkeshara Choorna*	6 gm once a day with 250 ml milk	Oral	29 days

Table No. 2 Ingredients of *Yukthratha Basti*

No.	Drug Name	Botanical Name	Part used	Quantity	Form
1	*Eranda*	*Ricinus cumminis* Linn.	Root	500ml (from 125gm coarse powder)	*Kwatha*
2	*Madanphala*	*Randia dumetorum* Lamk.	Dried fruit	8gm	*Kalka*
3	*Vacha*	*Acorus calamus* Linn.	Rhizome	8gm	*Kalka*
4	*Pipali*	*Piper longum* Linn.	Dry fruit	8 gm	*Kalka*
5	*Madhu*	*Mel depurtum*	-	75gm	-
6	*Saindhav*	Sodium chlorodum	-	12gm	-
7	*Tila Taila*	*Sesamum indicum* Linn.	Seed oil	150 ml	*Taila*

Figure 1 HSG Report before treatment



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[redacted] SAGARBHAI UTADIYA
Ref by : DR. PRATIK BHATODIA
Date : 18/09/2021
Age/Sex : 26 Years / Female

HYSTEROSALPINGOGRAPHY
[DIGITAL]

REPORT

* UTERUS IS NORMAL IN SIZE.
* UTERINE CAVITY APPEARS NORMAL.
* BOTH FALLOPIAN TUBES ARE NOT VISUALIZED AND NO EVIDENT SPILLAGE ON EITHER SIDE P/O BILATERAL CORNUAL BLOCKAGE.
* VENOUS INTRAVASATION NOTED.

ADV: CLINOPATHO-CORELATION AND FURTHER INVESTIGATIONS....SOS

DR.JIGAR DEDANIYA
CONSULTING RADIOLOGIST

This is only professional, not a final diagnosis. not valid for medico lega

Figure 2 AMH report before treatment

DR.BHATT
PATHOLOGY LABORATORY
Diagnosis with Difference

Name	: Ms. Januben Sagarbhai Utadiya	Reg. No.	: 2039000526
Sex/Age	: Female , 26 Years	Patient ID	:
Ref. By	:	Ref. ID	:
Client	: Bhadarka Clinical Lab , Junagadh	Registration	: 24-Mar-2022 18:13
Dispatch	:	Sample Coll.	: 24-Mar-2022 18:13
Sample Type	: Serum, Plain	Report	: 24-Mar-2022 18:48
	Sample By : non DBPL		

Parameters	Result	Unit	Biological Reference Interval
Anti Mullerian Hormone (AMH)	L 0.508	ng/ml	Optimal Fertility : 4.0 - 6.79 Satisfactory Fertility : 2.19 - 4.0 Low Fertility : 0.3 - 2.19 Very Low/Undetectable : < 0.3 High Levels : > 6.79

Antimullerian hormone (AMH), also known as mullerian-inhibiting substance, is produced by Sertoli cells of the testis in males and by ovarian granulosa cells in females. In women AMH levels represent the ovarian follicular pool and could be a useful marker of ovarian reserve. A serum level of AMH strongly correlates with antral follicle count and reflects the size of primordial follicle pool.
Clinical use:
-To assess ovarian status, including follicle development, ovarian reserve, and ovarianresponsiveness, as part of evaluation for infertility and assisted reproduction protocols
-Specific and sensitive marker for the presence of testicular tissue in boys with cryptorchidism
-Assess the condition of PCO and premature ovarian failure.
-Assess ovarian reserve.
-Early detection of recurrence in patients with ovarian granulosa cell tumors.

Probability of Antral follicle count (AFC) with AMH level:

AMH (ng/ml)	AFC(0-7)	AFC(8-15)	AFC(>15)
<=0.68	63.2%	32.4%	4%
0.68-2.27	12.0%	56.9%	31.1%
>2.27	1.4%.	24.1%	74.5%

End Of Report

#non-DBPL Sample: It is sole responsibility of the referring laboratory or the person who collects the sample for any mismatch in patient's identity and integrity of the given sample. Dr. Bhatt Pathology Laboratory is responsible only for the analytical part.

Medical Laboratory Report
Electronically authenticated by doctor.
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Page 1 of 1

Dr. Mital Kundariya
MD Pathology

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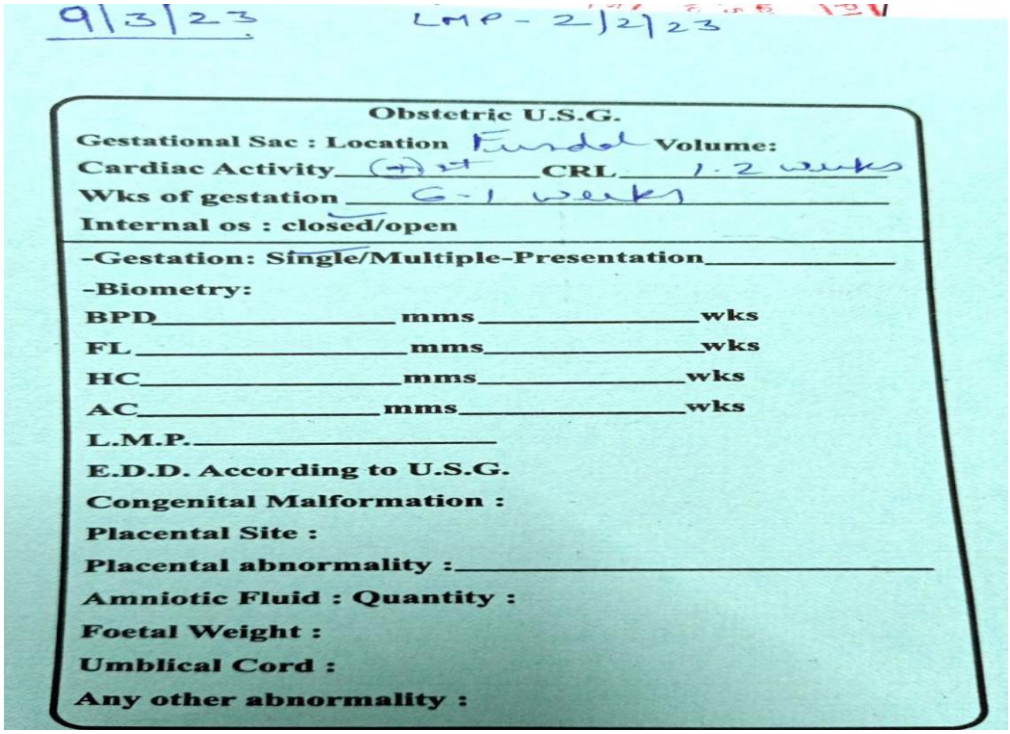
Figure 3 USG report after conception



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