



Case Report on Hypothyroidism in Infertile Woman with IVF Conception

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Introduction: Hypothyroidism affects 2–4% of women in their reproductive years. Anovulatory cycles, luteal phase defects, hyperprolactinemia, and sex hormone imbalances are all symptoms of sex hormone imbalances are all consequences of hypothyroidism on fertility.

Main Symptoms/or Important Clinical Findings: A 33 years old female admitted in AVBRH on date 19/1/2021 with chief complaint of infertility with hypothyroidism since 8 year, pain in abdomen, irregular menses.

Obstetric History: Patient had obstetric history of menarche start age of 15 year and flow of bleeding in slow/light. After irregular menses, she received IVF cycle and she was conceived the pregnancy in 1st IVF cycle.

The Main Diagnoses, Therapeutic Intervention, and Outcome: After physical examination and investigation, doctor was detected a case of primary infertility with hypothyroidism. Patient was treated with tab.thyronom50 mg drug to reduce the symptoms of hypothyroidism.

Nursing perspective: Administered flued replacement i.e. DNS, RL, monitored fetal heart rate and vital sign per 4 hourly.

Conclusion: Pregnancy conceived with in vitro fertilization increasing the more risk of gestational hypothyroidism as well as fetal complication. Treatment and management improves the outcome of pregnancy.

Keywords: Prevalence; infertility; subclinical hypothyroidism; and care; conception.

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1. INTRODUCTION

Infertility and subfertility may be caused by undiagnosed and untreated thyroid disease [1] In our society, all of these disorders have major medical, economic, and psychological consequences [2]. Luteal phase defect, anovulatory cycles, elevated levels of prolactin (PRL) and sex hormone imbalances are all possible effects of thyroid dysfunction on fertility [2]. As a result, even in the early days after conception, thyroid function should be regular required to improve in conception, breastfeeding, and the maintenance of a healthy pregnancy [3].

Any woman who wants to conceive and has a family history of thyroid issues, an irregular menstrual cycle, more than two miscarriages, or is unable to conceive after a year of unprotected intercourse should have her thyroid tested [4]. Hypothyroidism affects 2–4 percent of women in their reproductive years and has been linked to infertility and abortion [5] TSH levels in the blood are an easy way to screen for hypothyroidism. Subclinical hypothyroidism is suggested by a small rise in TSH levels. High TSH levels are associated with low T3 and T4 levels, while low T3 and T4 levels are associated with high TSH levels are indicative of hypothyroidism [6].

2. PATIENT INFORMATION

2.1 Patient Specific Information

A 33 yrs. old female was admitted on AVBRH On date 19/01/2021 with chief complaint of hypothyroidism since 8 year, pain in abdomen ,blood pressure was low i.e. 100/70 mm/hg. After physical examination and investigation, doctor diagnosed a case was primary infertility with hypothyroidism.

This 33 yrs old female had obstetric history of menarche start age of 15 year and flow of bleeding in slow/light. After irregular menses, she received IVF cycle and she was conceived the pregnancy in 1st IVF cycle. After regular menses of last month she receive IVF cycle and in 1st IVF cycle she was conceived the pregnancy, now she elderly 6 weeks gestational age with hypothyroidism.

2.2 Primary Concerns and Symptoms of the Patient

Present case was visited in AVBRH hospital on OPD bases on date 19/01/2021 with chief

complaint of hypothyroidism, pain in abdomen, irregular pain full periods.

2.3 Medical, Family, and Psycho-social History

Present case had no any medical history. In family history. In family history she is belong to nuclear family and her husband had no any medical history like DM, HYPERTANTION. She mentally stable, conscious and oriented to date, time and place. She was maintained good relationship with doctors and nurses as well as other patients also.

2.4 Relevant Past Intervention with Outcomes

Present case had obstetric history of irregular menses. After regular menses of last month she received IVF cycle and in 1st IVF cycle she was conceived.

2.5 Clinical Findings

Present case was unhealthy, she was conscious and oriented to date, time, and place. Her body built was moderate and she was maintained good personal hygiene. On breast examination, breast was enlarged, tenderness and bluish vein visible. Nipple was large and erected. On abdomen inspection, steria gravidarum, linea nigra was present. Abdominal shape was cylindrical, abdominal girt was 89 cm and fundal height was 18 cm. In abdomen palpation, fundal grip show that hard rounded structure feel and breech. On vaginal examination, discharge was not seen, no any uterine prolapse.

2.6 Timeline

present case had bad obstetric history .after irregular menses she took the treatment in A.V.B.R. Hospital and she got the regular menses after regular menses she received IVF cycle in A.V.B.R. Hospital and she was conceived the pregnancy in 1st IVF Cycle , now she is elderly 6 week gestational age with hypothyroidism.

2.7 Diagnostic Assessment

On the basis of patient history, physical examination, abdominal palpation and USG and other investigation revels different outcome, a through clinical evaluation and after USG report show that she had singleton pregnancy.

USG- Single intrauterine live fetus of average gestational age of 6 week but fetal condition show 1st stage of intra uterine growth restriction.

Routine tests, Random blood sugar (RBS), renal function tests (RFT), hemogram, urine routine, and ultrasound (if needed) were all performed.

2.8 Therapeutic Intervention

Present case took the medical management with hypothyroidism tab Thyronorm 75 mcg twice a day for reduce the hypothyroidism. Tab calcium ones a day for calcium supplementary. Inj. Corion 1000IU/DAY. Inj Lomoh 40 mg s/c daily.

2.9 Nursing Perspectives

IV fluid was provided to maintain the fluid and electrolyte. Monitored fetal heart rate and vital signs per hourly.

3. DISCUSSION

Present case was admitted in hospital with chief complaints was hypothyroidism since 8 year, pain in abdomen, blood pressure was low i.e. 100/70 mm/hg. After physical examination and investigation, doctor diagnosed a case was primary infertility with hypothyroidism. She took treatment of gestational hypothyroidism, estrogen hormone therapy and calcium supplementary drug. Patient condition was stable, hypothyroidism was controlled, but fetal complication was occurred, according to ultrasonography report was show that stage 1 – uterine growth restriction. Thyroid hormones have a major impact on fertility and pregnancy [7]. Thyroid dysfunction has been linked to a variety of reproductive issues, including abnormal sexual growth, infertility and menstrual disorders [8]. Increased hypothyroidism is related to TRH production, which induces pituitary secretion of TSH and PRL [8]. By impairing GnRH pulsatility and thus ovarian function, hyperprolactinemia has an adverse effect on fertility capacity [5]. TSH and PRL levels are routinely tested by gynecologists in all infertile women, regardless of their menstrual cycle [9]. Thyroid hormone levels can be adjusted to treat thyroid dysfunction, which is a common cause of infertility. When TSH and PRL levels are elevated, it is suggested that the hypothyroidism be treated first, before looking at other causes of hyperprolactinemia. The treatment of choice is hormone therapy with thyroxine in hypothyroidism that has already been diagnosed

It increases the fertility rate by regulating the menstrual cycle and PRL levels. As a consequence, after 6 weeks to a year of therapy Infertile women with hypothyroidism conceived in 76.6 percent of cases. We attempted to maintain regular TSH levels; after 6 to 8 weeks, TSH tests were used to determine hypothyroid medication dosage enforcement and adequacy [10]. As a consequence, natural TSH levels are in the normal range one of the pre-requisites for fertilization. Infertile women may justify starting thyroid replacement therapy early if they have subclinical hypothyroidism. Our findings also suggest that TSH levels in the narrower range or on the borderline, such as 4–5, 5–6, and >6.0 IU/ml, should not be ignored in infertile women. Few of the related studies were reported by Acharya et al. [11], Dixit et al. [12], Kolli et al [13]. Gaikwad et al. reported about pregnancy induced hypertension [14]. Inamdar et al. reported about hypertriglyceridemia and hypercholesterolemia in a case with gestational diabetes mellitus [15]. A study on successful IVF pregnancy was reported by Khandelwal et.al. [16]. Clinical hypothyroidism is asymptomatic in most cases. Instead of undertaking an excessive battery of hormone assays and expensive invasive treatments, this category of infertile women could greatly benefit from being properly diagnosed and treated for hypothyroidism further studies with large sample sizes and long-term follow-up should be planned. in order to better manage the causes of infertility to confirm the differences in TSH and PRL levels [17,18].

4. CONCLUSION

Pregnancy conceived with in vitro fertilization increasing the risk of gestational hypothyroidism as well as fetal complication like uterine growth restriction. But timely treatment improves the outcome of pregnancy.

ETHICAL APPROVAL AND CONSENT

As per international standard or university standard guideline patients consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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