

# A Successful Pregnancy Outcome In A Patient With Hyperthyroidism, Obesity, And Multiple Failure Of Embryo Transfer: A Case Study At Rural Art Clinic

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## Abstract

During pregnancy, having a disorder related to the thyroid is considered a common problem. The thyroid is the disorder in the body that causes the hormones like T3[Triiodothyronine] as well as T4[Thyroxine], and this is responsible for controlling the metabolism process. The process is simply related to the storing of energy and then using it efficiently. In a recent study, it has been proven that a pregnant woman with hyperthyroidism has adverse outcomes. Women and their children face it. The different complications involved in it consist the miscarriage or sometimes hindrance of the development of the fetus, sometimes the delivery can be preterm, and their problem associated with the weakening in the case of the child. The main objective of the present work is to find out the effect of hyperthyroidism in the case of pregnant women. The impact of obesity and hypothyroidism plays a vital role in the case of pregnant women. The proper treatment is essential to having a good pregnancy. Otherwise, complications can be produced if the precautions are not taken properly.

**Keywords:** obesity, Hyperthyroidism, IVF, test tube center, pregnancy.

## INTRODUCTION:

Nowadays, In couples of advance age the easiest way to treat infertility is assisted reproductive technology [1]. This kind of technology, also known as assisted reproductive technology, is considered cutting-edge technology and responsible for making women conceive who would like to have a pregnancy even after post menopause [2]. In Women of advanced maternal age, the percentage of failure in conceiving also increases. The technology of advanced maternal age is available in the meaning of the situation in the earlier it was not possible [3]. Using

such technology to assist reproduction, even after the postmenopausal changes, chances of getting pregnant are considered to be a futuristic option and optimistic for couples having older age[4] .

The most common reason for hyperthyroidism and hypothyroidism is an autoimmune disorder, a disease in which our immune system does attack thyroid follicles which results in increased production of thyroid hormone. Uncontrolled hypothyroidism has many effects. It may lead to preterm birth and low birth weight for the baby. Adequate management of hypothyroidism in pregnant women is essential because uncontrolled thyrotoxicosis significantly increase the risk of maternal and fetal complication[5]. Treatment of hypothyroidism and hyperthyroidism at the time of pregnancy inhibits thyroid hormone production by declining organification of iodine DIT, MIT methimazole [MMI] propylthiouracil [PUT] coupling and carbimazole are used for the treatment. Hyperthyroidism is associated with infertility and pregnancy loss; thyroid hormone increases the risk of miscarriage independent of maternal metabolic dysfunction[6]. Women with a level of thyroid-stimulating hormone at the time of pregnancy might feel raised in early pregnancy weight gain also total gestational weight gain compared to women with less hormone[7].

Management of weight at the time of pregnancy is controlled by diet, exercise, gestation, and modification of behavior. The primary goal is now to avoid much weight gain during the gestation period, which is standard on obsessing, taking the help of a nutritionist to help plan a patient's meal for optimum healthy gestational weight gain [8] During pregnancy, hyperthyroidism is at the high level of thyroid hormone-induced by severe disease [9] . Obesity is associated with an increased risk of almost pregnancy complications, gestational hypertension, preeclampsia, gestational diabetes, Mellitus delivery of large for GA [Gestational-age] infants, ad a higher incidence of congenital disabilities, all of which occur more frequently than in women with a normal BMI (Body mass index) [10]. Having a high BMI in pregnancy has been linked to an increased risk of various health problems for a baby. Including congenital disorders. Being significantly more significant than average at birth growth problems[11]. How much thyroid hormone is called as hyperthyroidism and can cause many of your body's functions to speed up. Hyper means the thyroid is overactive. Less thyroid hormone production is called hypothyroidism and can cause many of your body's processes to slow down[12].

## CASE PRESENTATION:

This case is related to a woman the age of 30 years who visited the fertility clinic. The women have been considered for the treatment of the pregnancy in the case of IVF[ In Vitro Fertilization]. The issue is related to obesity and hyperthyroidism in pregnant women aged 30 years. Medical History-The woman is already suffering from obesity and hyperthyroidism. The earlier record shows that there is no history of smoking or drinking alcohol. The family had no account related to asthma, heart-related problems, or kind major surgeries. The record is not associated with mental psychiatric illness. The pregnant woman has taken the treatment from the test tube baby center situated in Wardha.

## Clinical Finding.

The [AMH] Anti-mullerian hormone Level of female patients is 5.1. The hemoglobin of a female patient is 11.4[g/dl]. The random blood sugar level is 86. The HbA1c level is 5.65. the T3 level is 1.58 [ng/ml] And T4 level is 13.9[mcg/dl]. The TSH level is: 3.39[MLu/ML]. and LH level is 4.72[MLu/MI] the Estradiol level of female patient is 74678[pg/ml] . the Bilirubin level is 0.6[mg %]. And SGOT level is 26[IU/L]. the female patient's SGPT level is 27[IU/L]. The female patient's T. Protein level is 7.1[mg%]. The patient does not have a cough history, no cold, no dyspnoea, no pulse, no HTN [Gestational hypertension], no chest pain, no DM [ Diabetes mellitus], no TB [Tuberculosis], no asthma, and no allergy. Liver size is 14.8 cm in size, normal in morphology and echotexture. The biliary system is about 1 HBR, not dilated. Gall Bladder is partially distended. Uterus size is 11.7x5.3x3.0 cm, and myometrial echotexture is normal—endometrial echo complex central, regular, and thickness of 5.8 mm. Minimal endocervical collection noted. Right ovary size is 3.5 x 2.0 cm, normal in morphology and echotexture, and POD [Polycystic ovarian disease] is clear. USG [ultrasound] abdomen and pelvis reveal Left ovarian simple cyst and Minimal endocervical collection. Uterus appears normal in size, shape, and echotexture.

Therapeutic Intervention- It was suggested that the patient should go for the treatment of IVF [In vitro fertilization] so that the donor oocytes can be fertilized properly. The positive results are obtained in the case of the pregnant woman for the possibility of hyperthyroidism treatment in the test tube baby center in Wardha. It is observed that 10 MII, 5MI were used, 02+02 Day 2 and 3 Day 5 Embryo formed and froze while 03 Day 5 Embryo were transferred. Follow-up and Outcomes implies the case was related to pregnant women with hypothyroidism. The case was started in 2018, and the followup is going on till 2021. The embryo has been successfully transferred to the patient .

## DISCUSSIONS:

Hyperthyroidism is related to reducing the production of heat reduce the metabolic rate connected with a high level of [BMI] and obesity. The woman who has hyperthyroidism might have irregularity in periods and heavy blood flow during the period, which causes problems with getting pregnant or chances of abortion[13-20]. Obesity is a long-term disease that has numerous health problems. If the patient is suffering from hyperthyroidism patient's body will utilize a low amount of energy from food, and excessive energy will store in the body as fat cells. Obesity and hyperthyroidism have a close connection together[14]. Obesity and hyperthyroidism are two common clinical condition that have been linked closely. In most of cases women with hyperthyroidism mostly have had thyroid disease before beginning of gestation and will already be receiving treatment. A new diagnosis of hyperthyroidism is uncommon in early, as untreated disease associated with declined fertility. childrens of mothers suufering from obesity tend to have raised risk of stillbirth, congenital anomalies, prematurity, macrosomia and neonatal death. Obesity is associated intrauterine exposure with an raised risk of developing obesity and metabolic disorder in childhood[21-28].

## CONCLUSIONS:

hyperthyroidism contributes to infertility in patients. Obesity increases complications during pregnancy and during delivery. A pregnant woman who is suffering from hyperthyroidism and obesity during pregnancy, affects the baby in various ways, which include premature birth of baby, low weight of baby, gestational hypertension, and congenital defects. The study found that pregnant women who have subclinical hyperthyroidism, can have a risk comparatively higher of gestational diabetes may occur. Women in pregnancy, if they take proper medications and treatment, can cure the thyroid disorder as well as by doing regular exercise and following a healthy diet can successfully beat obesity and keeps the thyroid gland healthy.

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