Hypothyroidism masquerading as Ovarian Malignancy: A Case Report

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**ABSTRACT**

**Background:** Ovarian cysts are the most common indication for surgery. Some cysts are due to endocrine dysfunction and mostly do not require surgery.

**Case description:** We report a case of a 32-year-old female who presented with large ovarian masses and pituitary enlargement seen in association with hypothyroid. Initially, her radiological imaging and risk of malignancy index (RMI) were in favor of malignancy. On further workup of the patient, high thyroid stimulating hormone (TSH) and prolactin levels were found and she was planned for surgery after optimization. There was a dramatic symptomatic relief as well as a decrease in the size of the ovarian mass after four months of thyroxin supplementation.

**Conclusion:** In young patients presenting with bilateral multicystic ovarian masses, a thyroid function test is mandatory and if thyroid dysfunction is detected, it should be addressed before any surgical intervention.

**Clinical significance:** Hypothyroidism should be considered in differential diagnosis of female with multicystic ovarian mass.

**Keywords:** Galactorrhea, Hypothyroidism, Ovarian cyst, Pituitary hyperplasia, Risk of malignancy index 1.
Hypothyroidism presenting as Ovarian Mass and Pituitary Hyperplasia

TSH (3.11 µIU/mL) and prolactin level (0.5 ng/mL). She also resumed a normal menstrual cycle.

**DISCUSSION**

Ovarian masses are the most common indication for gynecological surgeries. It is the risk of malignancy that propels us to early diagnosis and aggressive treatment to decrease the risk of metastasis. At the same time, over-treatment of benign ovarian masses should be avoided.

In the reproductive age group, ovarian cysts are commonly due to hormonal imbalance and resolve with the correction of the endocrine dysfunction. Few case reports have highlighted the association of ovarian cyst with hypothyroidism. Although the mechanism is uncertain, there are few convincing hypotheses reported in the literature. Due to the common alpha-chain of TSH, FSH, and LH, high-TSH level leads to luteinization of the ovarian cyst. On review of the literature, we found one case report of a patient with subclinical hypothyroid associated with hyperprolactinemia that normalized with levothyroxine therapy. Hyperprolactinemia is due to the compensatory increase in TRH resulting from low thyroid level. Our patient had bilateral ovarian masses with galactorrhea and pituitary hyperplasia which got resolved after the treatment for hypothyroidism with thyroxin substitution.

Initial radiological imaging and MRI were in favor of malignant ovarian mass. Hypothyroidism and other endocrine disorders should be considered in the differential diagnosis of reproductive age group patients presenting with a multiloculated ovarian mass. In such cases, surgery is required only when there is ovarian torsion, hemorrhage or rupture.

**CONCLUSION**

Our case was reported to create awareness that not all ovarian cysts need surgical intervention. Systematic preoperative evaluation can avoid unnecessary surgical intervention. Hypothyroidism should be considered in the differential diagnosis of multicystic ovarian mass to avoid unnecessary surgery.

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**REFERENCES**