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Case Report

Ovarian Tumor Discovered Incidentally During Contralateral Ovarian Torsion: A Case Report

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Abstract

Children ovarian masses are represented by benign functional cysts and tumors (80% of which are benign). They may be associated with anomalies of the internal genital organs. Our study focuses on the case of a 10-year-old girl who presented with torsion of the right ovary, after which a mass in the contralateral ovary was discovered.

Keywords: *Ovarian Tumor; Carcinoembryonic Antigen (CEA); Sertoli Cell*

Observation

The patient is a 10-year-old girl, M, from non-consanguineous parents, and the second of two siblings. M had no significant medical history during her neonatal period and demonstrated good psychomotor and staturo-ponderal development. At the age of 10, she presented with right ovarian torsion, for which she underwent laparotomy revealing a mass in the contralateral ovary.

Among the additional tests, the levels of BHCG and alpha-fetoprotein were normal, as were the blood electrolyte levels, CRP, and complete blood count. Pelvic ultrasound showed a retrovesical multi-cystic mass. Pelvic MRI identified a multilocular organic mass in the left ovary associated with hypoplasia of the uterus, suggesting an association with Rokitansky-Küster-Hauser syndrome. This might be related to a variant of the syndrome, as the classic form usually involves congenital aplasia of the uterus and the upper two-thirds of the vagina with normal sexual characteristics. The patient underwent a left unilateral adnexectomy, which included an ovary measuring 8x7x4 cm and a fallopian tube measuring 3 cm by 0.3 cm, and the procedure was uneventful. Histopathological study supported a diagnosis of Sertoli cell retiform tumor, with the fallopian tube free of invasive tumor elements. One year follow-up pelvic ultrasound showed no abnormality in the right ovary and the uterus was of prepubertal type.

Discussion

Ovarian masses can occur at any age. They are frequently asymptomatic, and their discovery is often accidental, during a gynecological or abdominal examination, ovarian torsion, or ultrasound. Abdominopelvic pain is the primary symptom. These masses can be cystic or tumor-like (80% benign) [1]. Ovarian cysts are rare in childhood and adolescence but are the most common genital tract tumor before

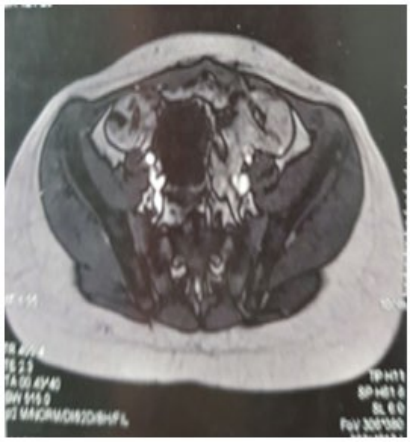

Figure 1: *Axial section of hypoplastic ovaries.*

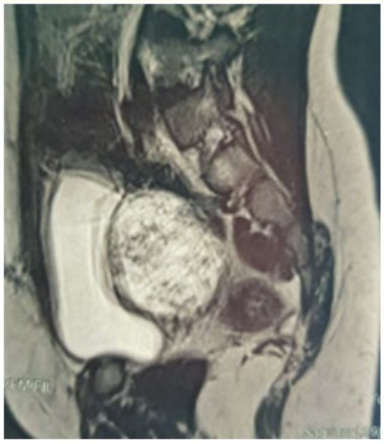

Figure 2: *Sagittal section of uterine hypoplasia and retrovesical mass.*

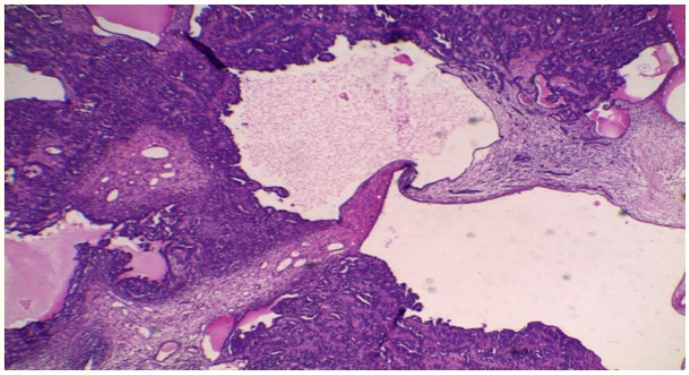

Figure 3: *Tumor proliferation consisting of cysts of varying sizes and solid areas. Hematoxylin; x 4.*

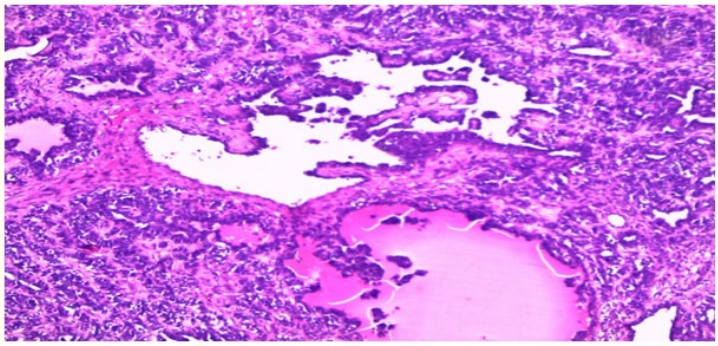

Figure 4: *Tumor proliferation consisting of cystic spaces lined with papillary projections with a hyalinized eosinophilic fibrous core. Hematoxylin and eosin stain; x20.*

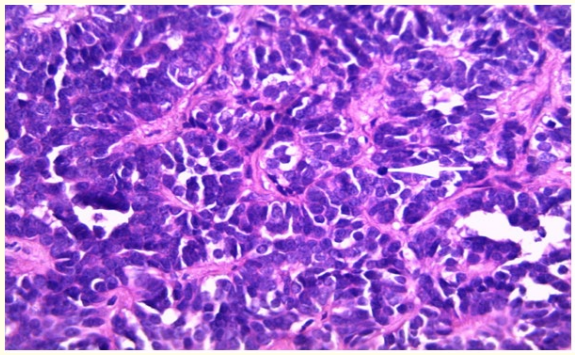

Figure 5: *The tubular, glandular, and papillary structures are lined by a stratified epithelium with hyperchromatic nuclei showing numerous mitotic figures (arrow). Hematoxylin and eosin stain; x40.*

the age of 15. Only 6% of ovarian tumors appear in the pediatric age group. The diagnosis of an ovarian cyst is made 27 to 50 times per 100,000 pediatric hospital admissions. The frequency of ovarian cysts increases with age: in a series of 353 ovarian tumors, 23% involved girls aged 10 to 14 years, and 62% involved those aged 15 to 19 years. Since the use of ultrasound, the frequency of functional cysts compared to organic cysts has significantly increased, from 20% in 1972 to 52% in 1985, and likely more today (around 60%) due to advancements in ultrasound technology [2,3].

According to a study by Sébastien Faraj., *et al*. ultrasound has made the diagnosis of ovarian cysts in the pediatric age group more common. The use of ultrasound for abdominal pain in children improves the speed and accuracy of diagnosis. Color Doppler is of great interest for some teams, as it highlights a complete interruption of blood flow in the adnexal pedicles in cases of torsion [3,4].

Measurement of tumor markers, including Carcinoembryonic Antigen (CEA), alpha-fetoprotein (for germ cell tumors of the ovary), and HCG is routinely performed preoperatively. CA125 (a marker for epithelial origin tumors) is not useful in diagnosing ovarian tumors in children because it is not sensitive or specific enough. It is accepted that about 30% of children ovarian tumors are malignant or have malignant potential due to immature components. For rare tumors like androblastomas and gonadoblastomas, measuring inhibin alpha and anti-Müllerian hormone is now interesting [5-7].

Sertoli and Leydig cell tumors account for 25% of endocrine ovarian tumors. They are rare, with a prevalence of 0.2% of all ovarian cancers [7,8]. These tumors are derived from mesenchyme and sex cords and encompass all phases of embryonic testicular development, from diffuse stromal and undifferentiated cord-like appearance to well-differentiated Sertoli tubules. Based on the varying proportions of Sertoli and Leydig elements, these tumors are classified into three groups: well-differentiated benign forms (60% of which secrete hormones), intermediate differentiation forms (immature Sertoli cells), and poorly differentiated, sarcomatoid, or retiform forms. On ultrasound, Sertoli-Leydig cell tumors appear as heterogeneous, vascularized tissue masses with solid areas; pure Sertoli cell forms are often multilocular with varying-sized anechoic fluid-filled areas. Histological examination confirms the diagnosis and defines the grade based on the proportions and differentiation of Sertoli and Leydig cells [9,10].

Treatment mainly involves surgery and considers prognostic factors such as tumor volume, tumor differentiation, capsule integrity, and the extent of mitosis. Unilateral adnexectomy or oophorectomy is feasible in young women of childbearing age. The uterine hypoplasia associated with the ovarian mass in our patient could be a variant of Rokitansky-Küster-Hauser syndrome [11,12].

Conclusion

Gonadal pathologies are rare in childhood. Ultrasound is a simple and non-invasive first-line diagnostic tool. MRI is more sensitive and specific as it allows precise diagnosis of uterine aplasia, visualization of rudimentary horns and ovaries, and detection of other associated malformations (renal and skeletal). Differentiated Sertoli cell tumors have a good prognosis with no potential for malignant transformation, and treatment is based on surgery (adnexectomy).

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