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Mystery unfolded: Lesson learnt – Adnexal mass in an adolescent girl

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Abstract

Ovarian masses are the most frequent gynaecological pathology seen in adolescent girls. Most cysts are benign, but a malignant etiology must nevertheless always be eliminated. Endometriosis is not uncommon in adolescence with majority of girls presenting with dysmenorrhoea. Here, we present a case of ovarian cyst, in a young girl, diagnosed as endometriotic cyst, later proved to be a misdiagnosis.

Introduction

Endometriosis is defined as the presence of endometrial glands and stroma outside the uterine cavity. Recent studies on endometriosis in adolescents show clearly that the disease is no longer characterized by subtle superficial lesions, but also by the presence of ovarian adhesions and endometriomas[1]. The most common clinical presentation of endometriosis is dysmenorrhea and pelvic pain. However, few patients may be totally asymptomatic. Hence adolescent girl with dysmenorrhea, with sonographically detectable adnexal lesion, prompts the clinician to diagnose it as endometriosis, as in our case. Further, endometriotic cysts have a detrimental effect on the ovarian reserve by the evolution in time and the surgical excision technique. Here we present an unusual case of adnexal mass in a young girl diagnosed as Endometriotic cyst of ovary later on proved else, mystery unfolded after surgery.

Case Report

A 20-year-old unmarried girl presented to gynaecological OPD of a tertiary care centre with lower abdominal pain of three months duration and dysmenorrhoea for three months. She had spasmodic dysmenorrhoea which was not relieved by anti-spasmodics.

On examination, she was thin built and not pale. Her vitals were stable. Abdominal examination did not reveal any abnormality. Her blood investigations were within normal limits. Her ultrasound examination of pelvis illustrated a right ovarian cyst of 7.4 x 4.8 x 6.6cm with internal echoes, suggestive of endometriotic cyst.

As a part of workup for adnexal mass, tumour markers were done. The following were the values: Ca 125: 20 U/mL, Sr. ß hCG: < 1.28 Iu/ml, AFP: 1.28 Iu/ml, Sr LDH: 256 U/L.

The patient was then planned to treat conservatively with GnRh analogues and Inj.Luperide depot was given. Then patient was discharged. On followup,the patient came back after three months with no relief of her symptoms. Repeat ultrasound pelvis (figure 1) revealed, a complex

cystic lesion of 9.2 x 6.8 x 4.9cm (vol 162cc) with internal mural components and low level internal echoes noted within the lesion. Mural component showing internal vascularity (systolic velocity 10cm/s and high resistance flow) noted. Right ovary not seen separately. F/S/O Right complex adnexal cyst.

As the case was mysterious and could not be solved by clinical judgement, the plan for laparotomy was taken. On surgery the intra-operative findings were, right sided ovarian cyst measuring 8 x 7cm seen. Uterus appears to be normal size. Left ovary normal. B/L Fallopian tubes were normal. Rest of pelvis normal. No evidence of endometriosis seen. Her post-operative period was uneventful. Patient was discharged after suture removal. Surprisingly, the histopathological report (figure 2) turned out to be Borderline serous cystadenoma of ovary which is much unusual in an adolescent girl. The patient is on regular follow-up.

Discussion

Young adolescent women may experience long-term drug-resistant chronic pelvic pain, as well as other symptoms associated with pelvic mass. In such cases, it is of great importance to consider ovarian endometrioma in the differential diagnosis. Laparoscopy remains the "gold standard" in the final diagnosis of endometriosis and its ovarian manifestation[2.] As endometriosis is assumed to be a progressive disease, the ACOG recommends the early diagnosis and treatment in the adolescent[3]. The purpose of an early intervention is the treatment of pain, prevention of the progression, and protection of the fertility. To minimize pain and disease burden, non-steroidal anti-inflammatory drugs, GnRH agonists, progestins and oral contraceptive pills are mainstream therapeutic options[4]. A decision to perform surgery in the adolescent patient can be difficult because of the patient's fear of surgical intervention and because of potential peri and post-operative complications[5]. Nevertheless, understanding endometriosis in the young woman may shed light on the more complex appearance in adult woman and improve early-stage management.

Borderline Serous cystadenoma is an uncommon ovarian tumour in the adolescent age group. Of all ovarian malignancy, 2% occurred in females younger than 25 years. Epithelial ovarian tumours constitute 15%–20% of all paediatric ovarian tumours [6]. Although there are numerous histologic subtypes in adults, most paediatric cases are mucinous or serous tumours are further classified as benign, borderline or malignant on the basis of their histologic and clinical behaviour. Borderline ovarian tumours (BOT) are uncommon tumours with an incidence of 2.5/1,00,000 women years[7].The terminology Borderline Ovarian Tumour was first introduced by WHO and FIGO in 1971. According to WHO, borderline epithelial tumour lacks obvious invasion of the stroma and has mitotic activity and nuclear abnormalities, intermediate between clearly benign and unquestionably malignant tumour of similar cell. Borderline ovarian tumours are mostly unilateral. They are also described as tumours of low malignant potential and have an excellent prognosis.

Ovarian serous cystadenoma arises from the surface epithelium of the ovary. Depending on the amount of the fibrous tissue, it can be classified into cystadenoma, cyst adenofibroma, adenofibroma, papillary cystadenoma, papillary cyst adenofibroma and papillary adenofibroma. Serous cystadenomas are usually oval, about 3–10cm in diameter, with a glistening surface and cystic fluid is clear to yellowish.

Microscopically, they have a single layer of ciliated simple columnar or simple cuboidal non-ciliated epithelium. Simple papillary projections can be seen, stroma has varying degrees of fibroblasts.

Transabdominal ultrasonography (TUS) without the use of an endovaginal probe is the initial imaging modality of choice in children and adolescents because of its widespread availability, ease of use and lack of ionizing radiation and because it does not require sedation.[8] However, MRI demonstrates an important advantage over other techniques in allowing complete imaging of all pelvic compartments at a time. Assay of serum tumour markers is the next step in establishing the differential diagnosis as it was followed in our case. Nevertheless, estimation of serum AFP and b-HCG levels is essential in children and adolescents who present with an adnexal mass. LDH, inhibin and CA-125 levels may also be useful markers for ovarian tumours that do not produce AFP or b-hCG.[9]

CA 125 is frequently elevated in serous tumours of the ovary, with significant levels in borderline and malignant tumours.

Borderline and malignant epithelial tumours in children and adolescents are usually a low grade and stage; thus, the prognosis is better than in adults with a similar tumour histology.[10]

Systemic review revealed that diagnostic accuracy rate for frozen section diagnosis is high for malignant & benign tumour but diagnostic accuracy in BOT remain low[11].

Conservative surgery is recommended for localized tumours. Excision is the choice for management of borderline tumours and annual physical examination and pelvic ultrasound are suggested to monitor for recurrence. Advanced or invasive tumours should be managed with procedures similar to those used in adult women and may result in infertility[12]. Lymphadenectomy is not indicated in patents with early stage lesions but it is indicated in patients with serous borderline ovarian tumours with enlarged lymph node. Regarding the prognosis of borderline ovarian tumours, it is excellent with a 5-year survival rate100%[13.] Follow up is advised for these patients every 3 months for the first 2 years, then, every 6 months for lifetime.

Conclusion

Even though endometriosis is a common diagnosis in an adolescent girl presenting with adnexal mass and dysmenorrhoea, epithelial ovarian neoplasms need to be ruled out. Early detection and intervention will contribute to a better quality of life and fertility preservation in these adolescents with adnexal mass.

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Legends Figures

Figure 1: Ultrasonography picture showing complex ovarian cyst.

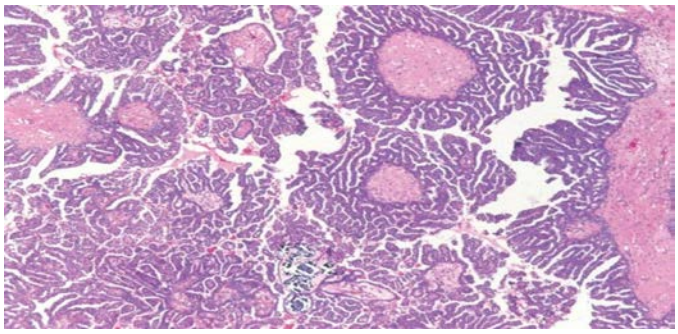

Figure 2: Histopathology picture showing borderline serous cystadenoma.

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