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Case Report

Mature Teratoma of the Ovary in a 14-Year-Old Girl: A Case Report at the Reference Health Centre in Commune I of Bamako, Mali

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Abstract: Ovarian masses are rare in young girls. They are mainly represented for functional cysts and benign tumors, the most common of which is mature ovarian teratoma. The early diagnosis of an ovarian teratoma is not easy and is often late. We present the case of a mature ovarian teratoma diagnosed in a 14-year-old girl. His management consisted of a right adnexectomy. The postoperative course was simple.

Keywords: Teratoma, Mature, Ovary, Girl, Commune I, Bamako.

INTRODUCTION

Ovarian tumours are rare in young girls [1]. Germ cell tumours account for approximately 38% of primary ovarian tumours, 95% of which are mature teratomas [2]. Mature cystic teratomas account for 20% of all ovarian tumours [3, 4]. They are seen mainly in young girls and are generally benign. Their early diagnosis is not easy, which is why ovarian pathology should be suspected in the presence of any abdominal mass in a girl. Through our observation, we wish to highlight one of the specific features of mature ovarian teratomas, namely their slow, insidious and sometimes painless development, leading to an often fortuitous and late discovery.

CASE PRESENTATION

We report the case of a young girl aged 14, the first of 5 siblings, her mother aged 50, a housewife, and her father aged 55, a manual worker. She was of normal weight and had no particular medical or surgical history. She was presented with an abdominal mass, with no other symptoms. On physical examination, the patient was in good general condition, apyretic, haemodynamically stable, with normo-coloured conjunctivae. Her abdomen was enlarged and palpation revealed an enormous abdominopelvic mass of firm, painless consistency, extending beyond the umbilicus and measuring approximately 3 cm. The lymph nodes were free. A speculum examination and vaginal examination were not performed because the patient was a virgin. The rest of the clinical examination was unremarkable. An abdominopelvic ultrasound was performed and revealed a large, heterogeneous, poorly vascularised abdominopelvic mass, developed at the expense of the ovary, associated with ascites. A median subumbilical laparotomy was performed, revealing a large cystic mass of mixed structure on the right ovary, which was completely affected. The left ovary was normal in size and structure. There was no effusion or signs of peritoneal invasion, and the surrounding organs were intact. The rest of the investigation was unremarkable. The operation was a right adnexectomy and the specimen was sent for pathology. Macroscopic

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examination revealed a mass 32 cm long with several cavities containing fatty material, fluid, hairs and cartilage (Figure 1 & 2). Histological examination of the sections showed fragments of poorly fixed ovarian tissue. There was tumour proliferation consisting of a patch of chondroid tissue, muscle tissue and fibrous tissue. There were also cystic formations lined by more or less flattened epithelial cells.

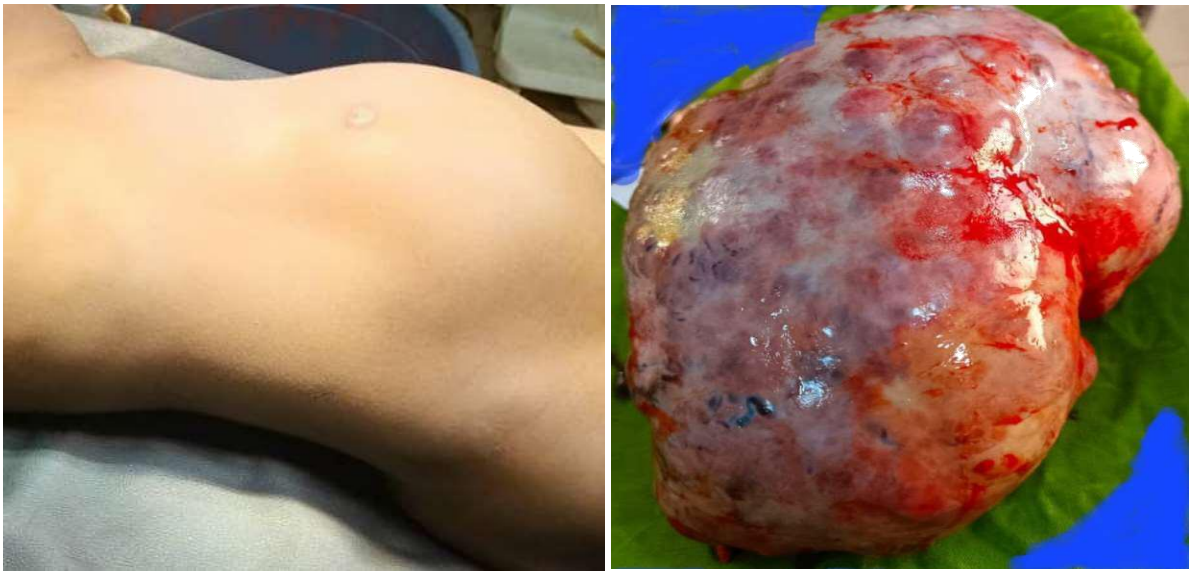

Fig 1: Macroscopic appearance before surgery Surgical specimen

Fig 2: Total Healing after Suture Removal

DISCUSSION

Mature teratoma of the ovary is the only benign form of germ cell tumour; it is also the most common of all germ cell tumours and the most common benign tumour in children. It can also be seen in adults [5]. Mature pluritissular teratoma is a tumour composed of mature adult-like tissue arising from the totipotent cell of the ovary that develops in fully differentiated ectodermal, mesodermal and endodermal tissues [6].

Epidemiology: the relative frequency of benign cystic teratomas compared with other ovarian tumours is between 10.9% and 18.2%. However, this frequency varies with age, such that benign teratomas account for 22.9% to 25% of ovarian tumours and cysts before the age of 15, and even 38% before the age of 20. The age at which benign teratomas of the ovary are detected varies between 3 months and 86 years. The average age is 34. Seventy-seven to 91.6% of cases are diagnosed between the ages of 15 and 50. Both ovaries are equally likely to be affected or, on the contrary,

right ovarian teratomas (56.48%) are more common than left (39.36%) and 4.15% or 16% are bilateral. A study of the epidemiological profile of childhood ovarian teratomas in Canada over a period of 9 years (from September 1999 to August 2008) showed that the median age of patients was 13 years, with extremes of 4 to 18 years, and 73.2% of patients had a mature ovarian teratoma and 26.8% an immature teratoma [7]. Our patient was 14 years old. A study of the epidemiological profile of ovarian teratomas in children, including 30 girls under the age of 18, showed that ovarian teratomas occur at a mean age of 11 years, with extremes ranging from 6 days to 16 years; 39 were unilateral and only one patient had a synchronous bilateral ovarian teratoma [2].

Circumstances of discovery and symptoms: Ovarian teratomas, especially mature ones, are often discovered by chance during a clinical or radiological examination. They may also be discovered by chance during laparotomy for another pathology. They are slow-growing and usually asymptomatic, but once they reach a critical size or develop malignant or hormonal properties, they become symptomatic [6]. Abdominal pain remains the most common presenting sign of ovarian teratomas. In a study of ovarian teratomas carried out by M J Kim in Korea, abdominal pain was the most frequent revealing symptom (50%) in girls under 10 years of age; in girls aged 10 to 19 years, abdominal pain was present in 32.7% [8]. In the study by Clair L [9], of 52 girls and adolescents with a mature ovarian teratoma, abdominal pain was the revealing sign in 76% of girls aged under 15 years, whereas abdominal mass was encountered in 77% of girls aged between 15 and 21 years. Our 14-year-old patient did not present with abdominal pain, but abdominal distension prompted her parents to bring her in for a consultation on suspicion of pregnancy. Abdominal and pelvic ultrasound revealed a large abdominal mass at the expense of the right ovary with a heterogeneous (mixed) echostructure overhanging the uterus, measuring approximately 28 cm long. Ultrasound is the fundamental examination that has revolutionised the diagnostic and therapeutic approach to ovarian pathology. It can also be used to determine the ovarian origin of the tumour, its structure (solid, cystic, mixed) and size, and its vascularisation using Doppler.

The surgical procedure: dermoid cysts of the ovary are treated surgically. The approach may be laparotomy (transverse or median) for cysts larger than 15cm in diameter, or laparoscopic [10]. Cystectomy is the usual procedure in young women. Treatment consists of as limited an excision as possible in order to preserve as much healthy ovarian tissue as possible, given the relatively young age of the patient and the frequency of bilaterality. If the teratoma is unilateral, simple excision is supplemented by meticulous exploration of the opposite ovary. The need for relative conservation of ovarian tissue is countered in practice by two factors: the possible lack of knowledge of the exact diagnosis of the cyst at the time of the operation, and the risk of peritoneal complication in the event of rupture. The rupture of a dermoid cyst in the free peritoneum, whether spontaneous or more often iatrogenic (intraoperatively), exposes the patient to the risk of chemical or granulomatous peritonitis. This peritonitis is caused by peritoneal irritation by the cystic contents, leading to a major inflammatory reaction with adhesion formation [11-13]. The risk of rupture is 4 to 13% by laparotomy and 42 to 88% by laparoscopy [7, 14, 15]. Ovarian conservation may not be possible in the case of large tumours and is not justified in postmenopausal women [7]. Oophorectomy or adnexectomy is required when the lesion involves the entire ovary and there is no longer any recognisable ovarian parenchyma. In the event of spontaneous or intraoperative rupture of a dermoid cyst, meticulous abdominal cleansing is required to avoid resorption granulomas, which can lead to extensive peritoneal adhesions and their complications. In our patient, we performed a median laparotomy given the large volume of the cystic mass. Intraoperative exploration revealed a huge cyst involving the whole of the right ovary, the parenchyma of which was no longer recognisable. We then performed a right adnexectomy without rupture of the mass (Figure 1).

Histological type: the confirmatory diagnosis of a mature ovarian teratoma is anatomopathological. Histological examination of benign cystic teratomas of the ovary usually shows mature derivatives of all three embryonic layers. Cutaneous tissue and its appendages are almost always present in teratomas, either as the sole component (30% of cases) or in variable quantities in relation to the other tissues [16]. The squamous lining is generally non-keratinising and non-para-keratotic, and its stroma contains a variable number of hair follicles, sebaceous glands and sweat glands. Occasionally, the squamous lining may be hyperplastic.

Pathological examination of our patient's mass revealed a macroscopic mass 28cm long with several cavities containing liquid fatty material, hairs and cartilage (Figure 2). A series of sections were taken from different parts of the mass and microscopic examination of the wall slices revealed several types of mature tissue: squamous epithelium, pilosebaceous follicles, smooth muscle, nervous tissue and cartilage. All these tissues were mature, with no cytonuclear atypia. No mitosis was observed.

Course and prognosis: Mature teratomas have an excellent prognosis [17, 18]. The risk of recurrence on the other ovary is approximately 10%. Mature teratomas have little or no tendency to malignant degeneration or the coexistence of malignant cells [19].

CONCLUSION

Ovarian teratoma is a rare disease. Early diagnosis is not easy. Clinically, pain is the most frequent sign, but it may sometimes be absent. The diagnosis is confirmed histologically.

Conflict of Interest: The authors declare no conflict of interest.

Authors' Contributions: All the authors have read and approved the final version of this document.

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