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Acute ovarian torsion in young girls

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ABSTRACT

Objective: To get to know about the clinical presentation of ovarian torsion in young girls.

Methods: From January 2009 to January 2014, 4 patients were treated in our hospital for ovarian torsion. The ages of the patients at surgery were 3, 9, 141, 151 months, with a mean age of 76 months.

Results: In all cases, the ovary was necrotic at the time of surgery.

Conclusions: Ovarian torsion is a rare gynecological emergency in children which requires an early surgical intervention to save the ovary from necrosis. Unfortunately, surgical treatment was belated in all our patients.

1. Introduction

Ovarian torsion is a rare gynecological emergency in children which requires an early surgical intervention to save the ovary from necrosis. Ovarian torsion occurs in all age groups. However, it is most commonly seen in adolescent girls^[1,2], mainly during the post-ovulatory period in many cases^[3].

The diagnosis is often difficult because the absence of the specific symptoms and a delay of surgical treatment can lead to adnexectomy. Therefore, the ovarian torsion should be suspected in a girl who presents an abdominal pain in iliac or hypogastric region. Also, the presence of a cystic tumor in the ovary on ultrasound should lead to surgical exploration in emergency, usually by laparoscopy. The sensitivity of ultrasound in diagnostic of ovarian torsion is from 40% to 75%^[4], and when we see a twisted vascular pedicle, the sensitivity would increase to 90%^[5,6]. For the girls, however, the current trend defends ovary preservation even when the ovary is necrosed^[7–9].

In this study, we present four cases of ovarian torsion. This research clearly shows that the discovery signs of this pathology are completely different in girls under 1 year old and girls in prepuberty.

2. Materials and methods

We reviewed the reports of ovarian torsion in young girls treated in our hospital from January 2009 to January 2014. Four patients were treated for ovarian torsion. The ages of the patients at surgery were 3, 9, 141, 151 months with a mean age of 76 months.

The purpose of this work was to know about the circumstances in discovery of the ovarian torsion, especially among young girls, the clinical signs encountered in these patients, and the place of radiological examinations in the diagnosis of torsion of the ovary.

All patients underwent the oophorectomy because of diagnostic delay.

3. Results

For the youngest of our patients, the ovarian mass was objectified during an antenatal ultrasound. In postnatal period, the physical examination was poor and could not find a palpable mass, so a CT scan was performed to objectify formation of the right ovary. A cystic tumor well-demarcated with peripheral calcifications measuring 25 mm × 22 mm × 25 mm was not enhanced after iodine injection. The alpha fetoprotein had declined from 342 ng/mL at birth to 235 ng/mL at the age of two months which allowed us to eliminate a teratoma. The rest of the laboratory tests were correct.

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For our second patient, aged 9 months, the ovarian mass was discovered by her mother at the age of 5 months. An abdominopelvic ultrasonography (Figure 1) was performed at the request of a pediatrician which had objected a cyst in the right ovary,

4. Discussion

Ovarian torsion is defined as partial or complete rotation of the ovarian vascular pedicle causing obstruction to venous

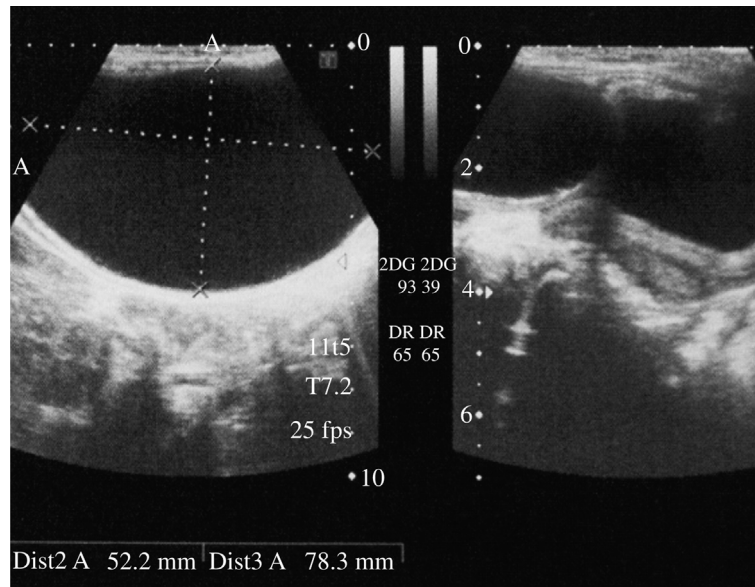


Figure 1. Ultrasound which shows an ovarian torsion.

which turned out to be measured as 8 cm in diameter, for which the patient was oriented to our hospital. Through the physical examination of palpation of the abdomen, there was an oval mass in the right iliac region with regular edges, and it was painless during palpation. Magnetic resonance imaging (Figure 2) objectified a abdominopelvic cyst which was measured 78 mm × 76 mm × 61 mm, homogeneous, and well circumscribed, exceeding the median line with ovarian origin. The rate of α -fetoproteins in the blood decreased from 54.6 ng/mL at the age of five months to 6.6 ng/mL at the age of nine months, which allowed us to eliminate a teratoma as well. The remaining laboratory tests were correct.

However, for the other two girls, in prepuberty, the clinical presentation was nearly identical: unilateral lower abdominal pain of recent onset accompanied by vomiting with notion of the previous months of similar crises. Histology was hemorrhagic necrosis in 4 cases.

outflow and arterial inflow^[4]. When fallopian tube also twists with the ovary, it is known as adnexal torsion^[5]. Ovarian torsion with healthy fallopian tube in children is rare. It usually occurs in prepuberty and is characterized by sudden onset of an iliac or hypogastric pain which evolves by crises, nausea or vomiting; notion of similar crises in the previous months (subtorsion) is a very evocative sign of an ovarian torsion^[10]. The primary risk factor for ovarian torsion is an ovarian mass more than 5 cm^[6].

On physical examination, there is pain or defense in iliac or hypogastric region. Pelvic ultrasound is an important non-invasive first step in establishing the diagnosis which reveals an enlarged ovary, but it is not reliable to confirm an ovarian torsion^[7]; its sensitivity ranges from 51% to 75%^[5,11]. Doppler is not very sensitive. CT scan or magnetic resonance imaging can be considered in the case of indeterminate ultrasound^[12]. The diagnosis of ovarian torsion must be confirmed early, and surgery, usually by laparoscopy, must be performed rapidly to allow the untwisting of the ovary. Traditionally, necrotic appearance has been synonymous with oophorectomy, however, the current trend defends ovary preservation^[7-9].

Ovarian torsion is most commonly associated with benign pathology and the torsion of the right ovary is more common than the left, probably due to presence of sigmoid on left and longer right ligament of ovary^[13,14].

In our small sample, there are two conclusions to remember. The first one is that the circumstances of discovery and the symptoms are completely different between the two groups. For girls aged less than 1 year, the mass is often palpable, but the diagnosis remains difficult because at this age, the ovarian torsion is very rare and the teratoma is firstly mentioned for a pelvic mass. In contrast, for girls in prepubertal age, there is often the notion of sudden onset of abdominal pain which is unilateral and lower, nausea or vomiting, notion of an identical symptomatology a few weeks before. However, even in this group, the diagnosis is often delayed. The second conclusion is that the

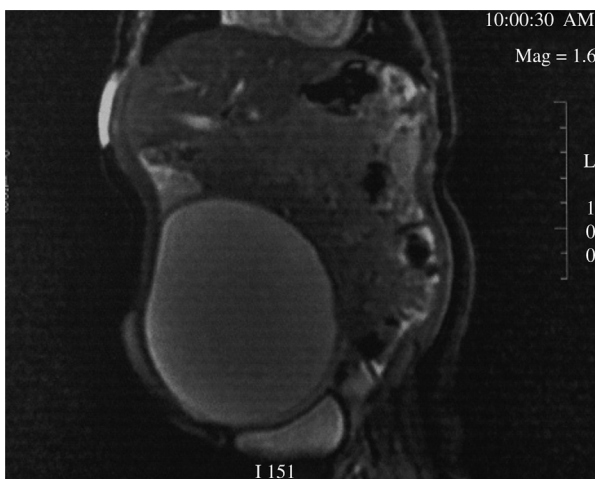


Figure 2. Magnetic resonance imaging of the ovarian torsion and voluminous cystic mass.

ultrasound should be considered as the examination choice in girls with pelvic pain. If this examination reveals a mass of the ovary in a young girl in prepuberty, surgical exploration should be performed urgently.

Conflict of interest statement

The author reports no conflict of interest.

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