

PREPUBERTAL TORSION AND INFARCTION OF NORMAL ADNEXA (A case report)

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Summary: A case of torsion and necrosis of normal adnexa in an eight-year-old girl is reported.

Key words: torsion of normal adnexa.

INTRODUCTION

Ovaries and tubes are very mobile organs, because of the tissular laxity of their ligaments and of their connection to another mobile organ, the uterus (^{1, 2}).

The mesovarium allows the ovary movements of 90° degrees "like a door on its hinges" (Kamina, after Vallin); the tube has the same range (^{1, 2}). Also, because of its remarkable laxity, the mesovarium can lengthen and become the pedicle on which the ovary, with or without the tube, may twist. This causes the so-called torsion of the adnexa, with infarction and necrosis of the involved structures (^{2, 4}).

The cause of the torsion is usually an ovarian or tubal disease such as ovarian cysts, hydro-, hemato- or py-salpiynx etc. Nevertheless it seldom happens that torsion of otherwise normal adnexa occurs, without any apparent reason (^{3, 4, 6, 7, 8, 11, 12}).

CASE REPORT

P. S., an eight years old girl, was admitted to the hospital with the diagnosis of acute appendicitis. The day before, while she was playing, she suddenly complained of a colicky abdominal pain in her right lower quadrant; an antispasmodic therapy was prescribed and hospitalization was believed to be unnecessary

because no sign of acute abdomen was present. Pain then spread to the whole of the lower left quadrant, and in the last hours it was combined with nausea and vomiting.

There were no other gastro-intestinal or urinary symptoms.

On physical examination, her temperature was slightly elevated, pulse 120 and BP 100/60. There was diffuse abdominal direct and rebound tenderness and muscle spasm, especially in the lower quadrants. No mass was felt on abdominal palpation. Leukocyte count was 14,300 per cubic centimeter; other laboratory tests were normal.

The preoperative diagnosis was peritonitis secondary to acute appendicitis.

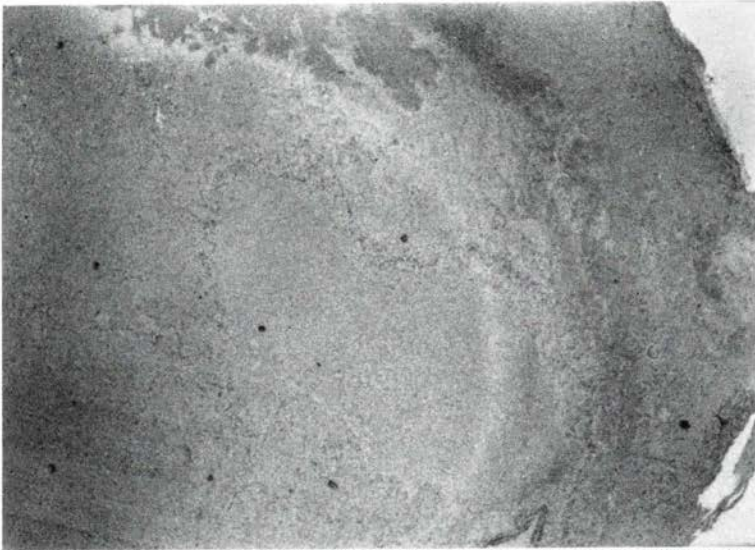
Surgical exploration of the abdomen revealed a moderate amount of bloody fluid in the peritoneal cavity. The right ovary and tube had undergone 3 1/2 clockwise revolutions on their vascular pedicle and were the site of extensive hemorrhagic infarction. The left adnexa appeared normal.

Right salpinx-oophorectomy and appendectomy were performed.

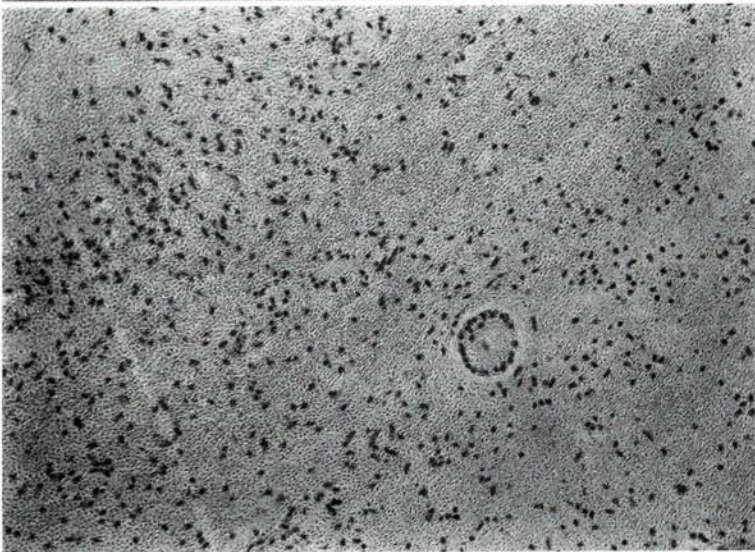
The postoperative course was normal and the young patient was discharged from hospital 9 days later.

On pathologic examination the ovary was found to be dark externally and measured 6 by 4.5 by 4 cm; the dark-red and thickened tube measured 6 cm.

Microscopic examination showed diffuse hemorrhagic infarction of the ovary and large necrotic areas with leukocytic infiltration. There were thrombi in the ovarian hilar vessels (fig. 1, 2). The tube showed serosal thickening with some areas of infarction, but the mucosa had a normal epithelium (fig. 3).



1



2

Figg. 1-2. — Hemorrhagic infarct with almost complete loss of ovarian structure (I-H&E, $\times 40$; 2-H&E, $\times 100$).

DISCUSSION

Torsion and infarction of normal adnexa are rare events, especially in children (^{11,12}). In his review of American and European literature, James found 41 cases over 50 years (³) and the pre-natal case reported by Dressler is most unique (⁵). Both ovary and tube, or only one of them, may twist (¹²). The right adnexa are more frequently involved, being more free, while

3) pelvic congestion and blood stasis due to chronic constipation; 4) enlarged ovary in an infantile genital tract with a very small uterus (^{3, 4, 8, 11, 12}).

The pathologic picture varies according to the grade of torsion and the time of observation. In the beginning there is blood stasis with edema and stromal hemorrhagic infiltration. Then thrombosis of veins and arteries occurs; the ovary becomes enlarged and reddish-purple in co-

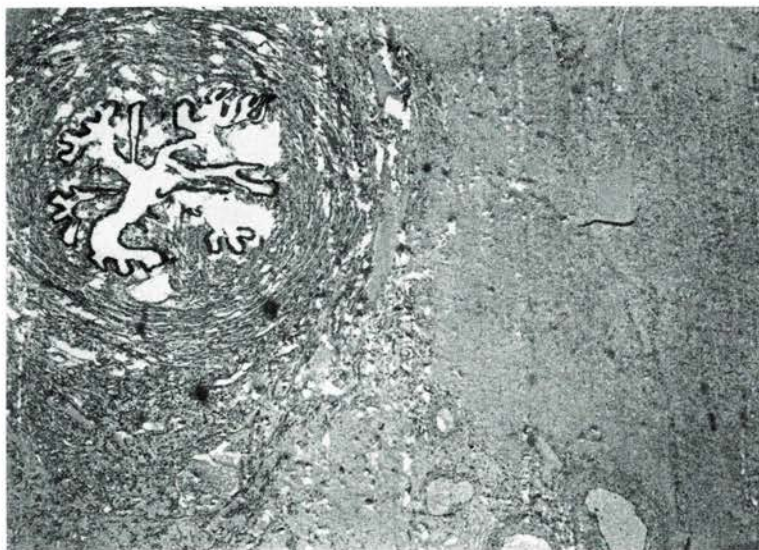


Fig. 3. — Normal tubal mucosa surrounded by areas of hemorrhagic infiltration (H&E, $\times 40$).

the left pelvic cavity is almost entirely occupied by the sigmoid colon. Bilateralism is exceptional (^{3, 4, 6, 7, 8}).

In case of torsion the right adnexa twists clockwise and the left adnexa counterclockwise. They may undergo from 1/2 to four revolutions (⁴).

The pathogenesis is almost unknown. Various theories have been advanced: 1) unusually long mesovarium or mesosalpinx; 2) persistent spiral course of the tube, normally present in fetal life, or increased tube weight, due to venous return obstructed by extrinsic compressions;

lour; there is hemorrhagic infarction that may rupture, leading to hemoperitoneum and sometimes to adhesive peritonitis (^{4,11}).

The clinical picture is variable, depending on the moment of examination. If twisting is slow, symptoms are scanty, with periods of remission and exacerbation; if it's fast, symptoms are acute. A chronic recidivant variant and a latent one are reported (^{3, 4, 6, 8, 11, 12}).

The clinical picture includes nausea, vomiting, constipation, pain in lower abdominal quadrants, low grade fever, tachycardia and leukocytosis (^{3, 4, 6, 7, 8, 11, 12}).

The diagnosis is difficult; the most frequent pre-operative diagnosis is acute appendicitis, even if left adnexa are involved^(3, 11). For the differential diagnosis one should remember that remission of nausea, vomiting and pain may be more spontaneous in case of torsion than in acute appendicitis, while there is less muscle spasm and better general conditions^(4, 11, 12).

Rectal examination is thought to be important, because it may disclose the enlarged adnexa as a soft pelvic mass^(3, 4, 6, 7, 8, 11).

From our experience rectal examination is generally useless because is badly tolerated by an acutely ill patient; furthermore, we think that a pelvic abscess secondary to appendicitis cannot be easily distinguished from the twisted adnexa, when torsion occurs in the right side. Moreover, Berger reports that only in 13 out of 28 cases the enlarged twisted adnexa were palpable⁽¹²⁾.

We share other Authors' opinion⁽⁹⁾ that in the case of steady or recurrent pain in lower abdominal quadrants, celioscopy is opportune and justified by the increased risk of infertility if torsion of the adnexa is diagnosed too late.

Acute abdominal pain in prepubertal girls may also lead to a diagnosis of gastroenteritis, mesenteric adenitis, constipation, right basal pneumonia, pyelonephritis, or of renal or ureteral malformations⁽⁶⁾.

A neglected torsion may become chronic or lead to tubo-ovarian infarction and gangrene, with localized or diffuse peritonitis, and to spontaneous amputation of the affected adnexa^(4, 11).

It is almost impossible that torsion may right itself spontaneously.

According to the trophic conditions of the involved organs, a conservative or radical surgical therapy is required^(3, 4, 6).

During the operation, contralateral adnexa should always be attached to the

posterior fold of the broad ligament or to the pelvic wall, in order to prevent their possible torsion⁽¹⁰⁾.

CONCLUSION

Torsion with infarction of undiseased adnexa is a serious entity, resulting in ablation of an ovary with reduction of the reproductive function. The diagnosis is very difficult, both for the aspecific clinical picture and for the rarity of this poorly recognized disease.

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