

A voluminous paraovarian cyst

Case report

A. AZZENA - F. QUINTIERI - R. SALMASO (*)

Summary: Paraovarian cysts represent 9-10% of all annexial tumescences. The Authors present a case of voluminous paraovarian cyst in young woman referring abdominal heaviness and swelling for about eight months. During laparotomy a 35 cm cyst with liquid content was revealed. The cystic mass was extirpated preserving the woman's reproductive capacity.

Key words: Paraovarian cyst; Surgery; Histology.

INTRODUCTION

The vestigial remnants of the mesonephric duct (Wolff) may give rise to cystic masses in the parovarian area. These represent 9-10% of all annexial tumescences and they generally spread between the faces of the broad ligament. We shall describe a case of a voluminous paraovarian cyst, with mesothelial origin, which has recently been observed in our department.

CLINICAL CASE

F.M., 18 years old. para 0000, referred to a feeling of heaviness and abdominal swelling for about eight months. The menstrual cycles were regular as regards times, quantity and duration, nor was there anything significant in her anamneses. By rectal examination a large mass of

doubtful consistency was found which completely occupied the Douglas pouch and had developed in the abdomen as far as the epigastric area.

The pelvic echographic examination established the presence of this mass and revealed a cyst with a liquid content, about 35 cm in diameter, the borders of its walls were regular, and it was well defined in comparison with the surrounding internal organs.

During the laparotomy examination, (carried out by cutaneous incision mini-Pfannestiel type) a voluminous cyst with a liquid content could be seen. It was opalescent, had a double vascular system (Fig. 1), with a 15 cm max diameter and a smooth pearly-coloured external surface.

A withdrawal was made of the cystic liquid (6 liters) which came from the paraovarian right side; part of this was sent for cytologic examination then the voluminous cyst was extirpated. Afterwards the right tube was also extirpated since it had been unavoidably damaged by the massive traction of the cyst. The left tube appeared normal, both ovaries had a higher volume than usual, but with micropolycystic appearance.

Furthermore, a careful pelvic cleansing with several washings of the abdominal cavity was made. The post-surgical period went well. The cytologic appearance of the cystic liquid tended to indicate a mesothelial cyst having several aspects of a serous type yet without any peculiarities of malignancy.

Department of Gynecology and Obstetrics
"G.B. Revoltella", University of Padova

(*) Department of Pathology
University of Padova

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The histological diagnosis was of a simple serous paratubal cyst, with a marked fibrosis of the wall.

PATHOLOGY

The macroscopic findings: the surgical specimen consisted of a cystic mass; the wall showed a varying thickness of between 0.2-0.5 cm while the interval surface, unilocular, appeared wrinkled and sometimes raised in folds which recall the gastric mucous.

The histological findings revealed a thick wall completely covered by mesothelial cells, sometimes appearing cylindrical and sometimes polygonal with a prevalently linear orientation but at some points forming papillae (Fig. 2). The wall of the cyst was formed of thick fibrous tissue and granulation tissue full of histiocytes and vessels.

Hyperplastic mesothelial cells, with cytoplasm with clear border and a voluminous central nucleus, were found both on the surface and in the cystic walls. These were arranged in numerically variable aggregates forming glandular-like structures and solid chords (Fig. 3).

The mesothelial cells indicated a typical epithelial morphology with voluminous cytoplasm, clear amphophylic borders and occasional intracytoplasmatic vacuolizations. The nuclei were swollen, vesicular, often including a clear nucleolus (^{6,7}).

Sometimes the mesothelial cells were plurinuclear, sometimes when they formed glandular-like spaces or were on the surface of the cyst, they appeared as "nail aspects" because cytoplasmic dilation closes the free surface (Fig. 3).

The immuno-histochemical colouring showed the typical ambivalence of the mesothelial cells which could react either with the markers typical of epithelial cells, such as the cytokeratin (CAM 5.2, AE1, AE3) or with the antivimentin and antidesmin antibodies which indicated mesenchymal type cells; on the other hand the reaction was negative to CEA, EMA (the epithelial antigen of the membrane) and to the factor VIII.

DISCUSSION

In the fourth week of the embryo stage, the mesonephric duct gives birth to the mesonephric kidneys and to the male reproductive apparatus, while in the female it tends towards an involution remaining as a residual embryo.

The paramesonephric ducts (Müller) give rise, in the female, to the uterus, tubes and to the upper part of the vagina, while the mesothelial epithelium covers the whole of the celomatic embryo cavity and forms the parietal and visceral peritoneum in the abdominal cavity.

Some residues on the broad ligament of the mesonephric (2%), paramesonephric (30%) and mesothelial (68%) tissue (²) may cause paraovarian cysts. These can appear at any age including puberty and the post-pubertal age. In the majority of cases (98%) it is a question of benign neoplasias (¹), the majority of which are monolocular, with a liquid and opalescent content, and of small volume.

Asymptomatic cases are often discovered by chance during laparotomy. They may sometimes reach large sizes (30-50 cm), and, growing towards the mesosigma, they can contract such a close relationship

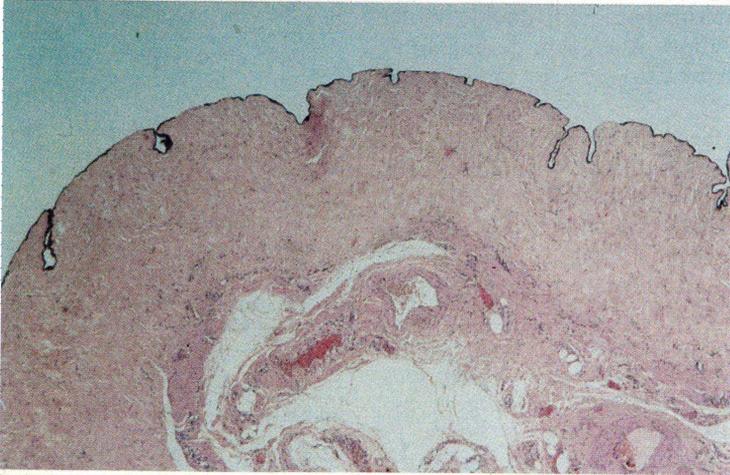
Fig. 1. — Cyst max. diam. is about 16 cm, without its liquid content. There is evidence of the double blood vessel circulation; below, part of the uterus and the ovaries can be seen.

Fig. 2. — Cyst's wall. (Ematoxilín-eosin 6 ×).

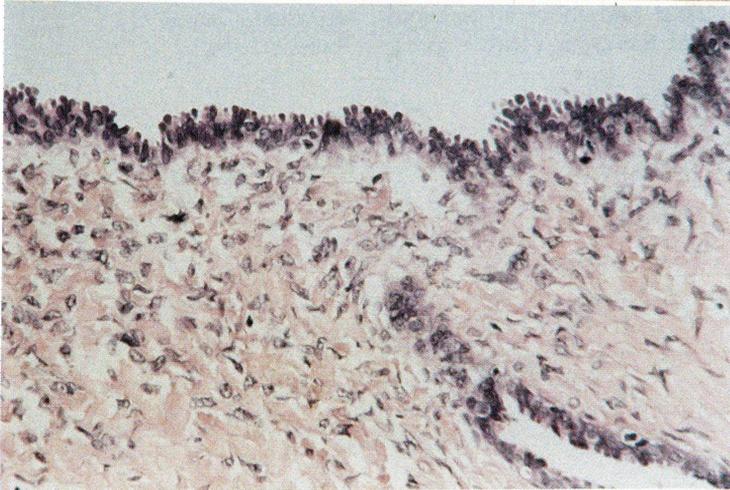
Fig. 3. — Details of the cystic wall; the mesothelial elements of the surface are activated, with linear orientation, while below, on the right, the same elements are aggregated in similar glandular structures. (Ematoxilín-eosin 6 ×).



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with the ureter and/or the Douglas pouch that they finally occupy the whole iliac fossa causing the symptomatology of vesical and/or rectal compression, causing a feeling of heaviness and an increase of abdominal volume.

The diverse diagnoses for paraovarian cysts are very difficult. An important sign could be the elastic consistency of ovarian cysts in comparison to the floating and less mobile consistency of parovarian cysts. Only laparotomic examination can lead to a sure diagnosis, in which a monolocular tumescence can be observed with a wall growing under the small peritoneal leaves of the broad ligament, which is transparent, with double blood vessel circulation. Malignant degeneration of the parovarian cysts is unusual (2%)^(1, 4).

The treatment for the parovarian symptomatic cysts is surgical. In young women using a preservative technique, we have to try to extirpate the mass while preserving reproductive capacity.

According to today's tendency the first step should be a laparoscopic examination⁽³⁾, to be used when the mass volume allows, and when there are no adhesions that may make laparoscopic surgery too difficult. In these cases it is better to use mini-laparotomy, so as to better the surgical procedure, and above all to avoid the possibility of the cystic content sprea-

ding into the cavity, a diffusion which could be caused by a fortuitous breach of the cystic walls.

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Address reprint request to:

A. AZZENA

Clinica Ostetrica Ginecologica "G.B. Revoltella"
Via Giustiniani, 3
Padova (Italy)