

# Ovarian bilateral cystic teratomas: diagnosis and therapy in a young woman

G. GARGANO (\*) - A. DE LEONARDIS (\*) - P. PERROTTI (\*\*)  
G. IZZI (\*\*) - A. RACANELLI (\*\*) - M. CORREALE (\*\*\*) - I. ABBATE (\*\*\*)  
V. LORUSSO (\*\*\*\*) - M. DE LENA (\*\*\*\*)

*Summary:* A case of ovarian bilateral cystic teratomas is described in young women. Difficult problems concerning diagnosis and therapy are deeply analysed because of the rarity of this case. Bilateral and typical ultrasound aspects appear strongly indicative of an ovarian tumor. A conservative reproduction-preserving procedure was performed, due to the young age of the patients.

*Key words:* ovarian bilateral teratoma; ultrasound; conservative procedure.

## INTRODUCTION

Ovarian teratomas are usually discovered in adolescence or in early life, but some testicular and mediastinal teratomas and most sacrococcygeal, retroperitoneal, cervical and intracranial teratomas are present at birth or discovered shortly thereafter<sup>(1)</sup>. Benign cystic teratomas, often called ovarian dermoids, account for 10 percent of all ovarian tumors, of which ten percent are bilateral and contain ectodermal tissue such as skin, hair, bone and teeth, or thick sebaceous material<sup>(2)</sup>. A small percentage (5%) of ovarian terato-

mas has heterotopic thyroid tissue (ovarian struma) which can produce a hyperthyroidism syndrome<sup>(3)</sup>.

Ovarian teratomas have a propensity to undergo torsion<sup>(1, 4)</sup> and occasionally the tumor may rupture, producing acute peritonitis<sup>(1, 4, 5)</sup>; preoperative diagnosis of intraperitoneal rupture is exceptional, however<sup>(6)</sup>.

Malignant transformation has been found to occur in <1% of patients affected with teratomas<sup>(7, 8)</sup>, but certain authors have noted malignancy in 1% to 3% of cases<sup>(5, 9, 10, 11)</sup>. In the present case we report a bilateral cystic teratoma of the ovary in a young woman, and its clinical management is discussed.

## CASE REPORT

An 18 year-old young woman was referred to the Oncology Institute of Bari, Italy because of the sonographic finding of a pelvic mass during the routine investigation for secondary ame-

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Oncology Institute of Bari (Italy)

(\*) Gynecology Division  
(Director: Prof. A. De Leonardis)

(\*\*) Dept. of Radiology  
(Director: Prof. A. Racanelli)

(\*\*\*) Laboratory of Clinical Chemical Analysis  
(Director: Dr. O. Pizzardi)

(\*\*\*\*) Oncology (Director: Prof. M. De Lena)

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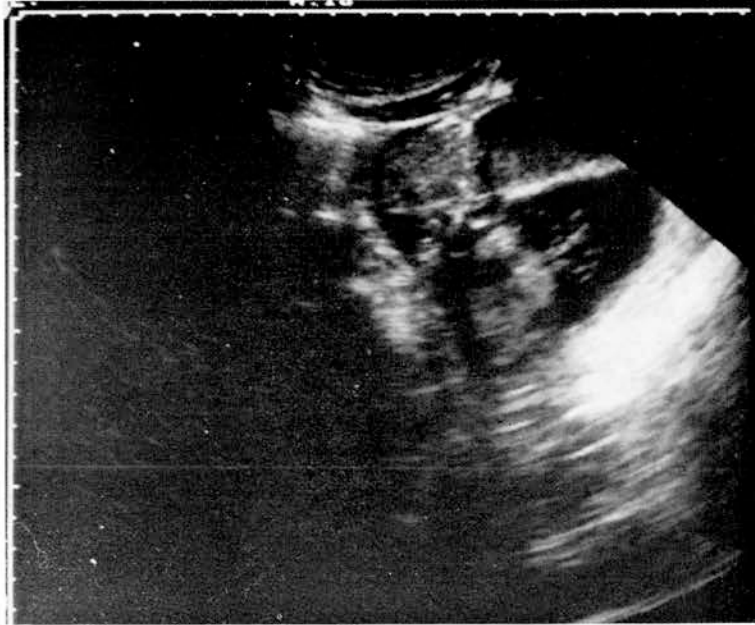


Fig. 1. - Sonographic examination of the pelvis (transverse scan). Large ovarian mass with some dense, hyperreflecting echoes inside (teeth).



Fig. 2. - Standard X-rays of the abdomen (pelvis). On the right side of the sacrum small triangular opacity with calcified shadow (\*\*). On the left side of the coccyx dental inclusions with "lambda" shaped calcified septum (\*\*\*).

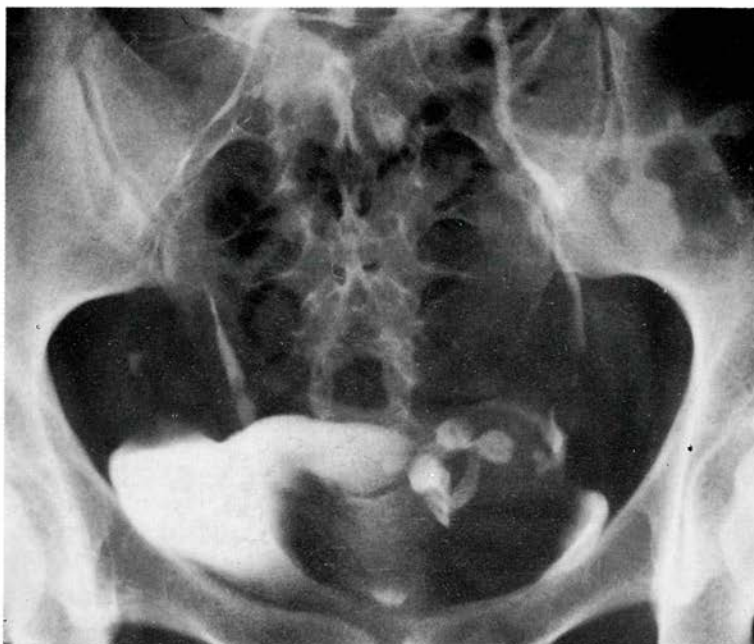


Fig. 3. - Pyelography (cystogram). Normal patent ureters. Distended bladder with extrinsic impression of adnexal mass.



Fig. 4. - Findings at surgery. Both ovaries enlarged, the left one transformed in a well-capsulated solid mass.

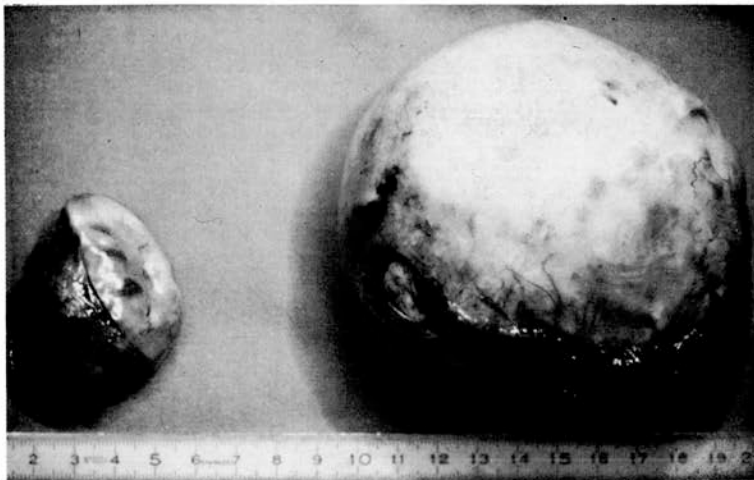


Fig. 5. - Macroscopic aspect of right ovary and left ovary.

norrhoea. Elevated free T4 levels were found. An ultrasonic examination with high resolution equipment (SAL 77-Toshiba, with 3.5 mHz sector probe) was performed and demonstrated the following (fig. 1):

- right adnexal region: presence of a mass (diameters 5.7x2.9 cm) with hyperechogenic contours, with a mixed content (solid and cystic);
- left adnexal region: presence of a larger mass (diameter 9.2x8.2 cm) with a mixed structure, hyperechogenic septum with the shape of the greek letter lambda, solid (calcified) general structure, as shown by the hind shadow;
- a normal anteverted uterus.

Standard abdominal X-rays and intravenous pyelography were performed which showed a dense opacity on the right side inside the pelvis, and several calcified images, identifiable as teeth, with a lambda shaped septum on the left side (fig. 2). After contrast medium perfusion, the bladder showed distortion because of extrinsic compression from the left-sided pelvic mass (fig. 3). The patient underwent a laparotomy operation with left ovariectomy, resection of the right ovary and appendectomy (fig. 4). The macroscopic appearance was as follows: left ovary transformed into a large capsulated mass (diameter 20x18 cm); dermoid cyst of the right ovary (5x6 cm) (fig. 5); both masses presented teeth, hair and macerated skin (fig. 6, 7).

Histologic diagnosis: dermoid cyst and bilateral follicular cysts of the ovary and small parovarian cyst (of probable Wolffian origin).

#### DISCUSSION

Every pelvic tumor needs thorough investigation, including ultrasound, X-rays and, if necessary, computerized axial tomography and nuclear magnetic resonance, in order to identify the origin and nature of the mass.

The predictive value of a positive diagnosis by ultrasound is nearly 97%<sup>(12,13,14)</sup>.



Fig. 6. - Gross appearance of right ovary after section, showing skin, hair and dental inclusions.



Fig. 7. — Gross appearance of left ovary after section, showing hair, skin and dental inclusions.

Distinctive plain film findings of cystic teratomas include teeth or bone and fat, and about 40% of ovarian cystic teratomas will demonstrate characteristics permitting a specific plain film diagnosis<sup>(15, 16)</sup>. Once that suspicion points to an ovarian origin of the tumor, a laparotomy and histological examination is obviously imperative to exclude malignancy.

The advantage of laparoscopic treatment of ovarian cysts has been described for women younger than 35 years with a simple ovarian cyst, for whom the overall risk of malignancy is only 4.5 per 100,000 cases<sup>(17, 18, 19)</sup>. The torsion of the pedicle with strangulation is the most frequent complication of a dermoid cyst reported in literature (the incidence of torsion is between 10.8% and 16%)<sup>(1, 4, 20)</sup>. Torsion predominated in the younger patients whereas malignant change usually occurred at an older age<sup>(7, 20)</sup>.

A rupture of a dermoid cyst is rare but if it occurs, it may be spontaneous or caused during removal. The rupture of the in-

testine by a dermoid cyst, which in itself remains intact, should be distinguished from intractantestinal dermoid rupture. In the latter, the contents of the cyst are safely expelled into the intestine and eliminated with the feces, the cavity of the cyst and the intestine remaining in communication<sup>(20)</sup>.

Bilateralism and a typical ultrasound aspect were, in the present case, strongly indicative of an ovarian tumor. The finding of well capsulated masses at laparotomy was another characteristic leading to the diagnosis of a benign mass.

A conservative reproduction-preserving procedure was therefore performed, due to the young age of the patient<sup>(21)</sup>.

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Address reprint requests to:

Dr. G. GARGANO  
Gynecology Division - Oncology Institute  
Via Scipione l'Africano, 191  
70124 Bari - Italy