

# Abdominal compartment syndrome due to a giant multilobulated ovarian serous cystadenoma.

## Case report and review of the literature.



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### Abdominal compartment syndrome due to a giant multilobulated ovarian serous cystadenoma. Case report and review of the literature

*The Authors report a case of abdominal compartment syndrome due to a giant ovarian serous cystadenoma. Despite of the relief of intra-abdominal hypertension (IAP: 16 mmHg), mild symptomatology (clinostatic dyspnea) lead to defer the emergency surgical treatment; after CT scan of abdomen and pelvis was performed a resection en bloc of the cystic mass, oophorectomy and cholecystectomy. However it seems advisable to perform an emergency laparotomy in patients with abdominal compartment syndrome (ACS) grade II when presenting as an acute abdomen.*

**KEY WORDS:** Abdominal compartment syndrome, Acute abdomen, Ovarian cystadenoma

### Introduction

Ovarian cystoma or cystoadenoma is a benign tumor consisting of a single or multiple cavity.

Among the different histotypes the serous one is often bilateral and has the highest probability of malignant degeneration; therefore it requires careful surgical maneuvers and attentive postoperative follow-up. Moreover the differential diagnosis between benign and malignant (cystadenocarcinoma) types is not plain, as gradual and intermediate forms (so-said borderline) may be found.

The benign tumors, and the cystadenocarcinoma too, may reach a considerable size in absence of specific symp-

toms or with poor manifestations, thus delaying diagnosis. The patients may complain a sense of bloating, abdominal distention, symptoms related to urinary or gastrointestinal compression (oliguria, intestinal obstruction), rarely abnormal menstrual cycle.

Cystadenocarcinoma is more frequent in menopausal women; factors of "higher risk" are: advanced age, nulliparous condition, early menarche and late menopause. The treatment, both in benign and malignant ovarian cystic tumors, is surgical.

### Case report

A 47 years old, unmarried and nulliparous woman, was hospitalized to face a progressive abdominal distention implemented in about 24 months<sup>1,2</sup>, finally flown into a grade II abdominal compartment syndrome (ACS), with IAP 16 mmHg<sup>3,4</sup>, and cardio-respiratory impairment: tachycardia 100 b/m, FR 18/min, dyspnea in supine position, hypoxemia (sO<sub>2</sub>: 89% in the ambient air), contraction of diuresis for several days<sup>5,6</sup>.

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The patient was admitted in emergency for abdominal pain and dyspnea in supine position lasting from about a week. An abdominal ultrasound examination

performed before admission revealed “gallbladder stones and a massive cyst occupying the entire upper abdomen”. The radiologist suspected a parasitic cyst and recommended further study (CT scan of the abdomen and pelvis).

At the first observation, clinical objectivity seemed referable to a pregnant woman at term gestation (Figg. 1, 2). Medical history was normal, no other ongoing noteworthy disease was evident.

The CT scan of abdomen and pelvis, performed in emergency, showed a giant hypodense neoformation, with homogeneous fluid density, thin-walled, poorly impregnating after administration of contrast agent. The liquid mass (53 x 45 x 33 cm) occupied the entire abdominal cavity displacing the viscera in subdiaphragmatic seat and in the pelvis. Under this mass, in the deep pelvis, a multiseptated cystic mass (30x18x14 cm) was present (Figg. 3, 4, 5).

Intra-abdominal pressure – measured through a bladder catheter – was 16 mmHg, namely a grade II abdominal compartment syndrome.



Fig. 1: The patient in orthostatism, a 47 y.o. female, at admission.



Fig. 2: The patient in supine position, in the operatory room.

## Results

At laparotomy the neoplasm appeared massive, multilobulated, totally cystic<sup>7,8,9</sup>, rather vascularized (Figg. 6, 7), with smooth surface, and seemed to origin from the left ovary. This mass occupied longitudinally the whole abdominal cavity from the diaphragm to the pubic symphysis and measuring 62 x 50 x 45 cm.

The surgical procedure consisted in the removal en bloc of the mass with left oophorectomy and cholecystectomy.

The tumor, weighing 38 kg, contained 32 liters of serum-haematic fluid; a sample of the liquid was sent for cytological examination and culture<sup>10,11</sup>.

Hystological diagnosis was found to be: giant ovarian serous cystadenoma. Cytological examination revealed the presence of red blood and inflammatory cells, negative bacterial culture.

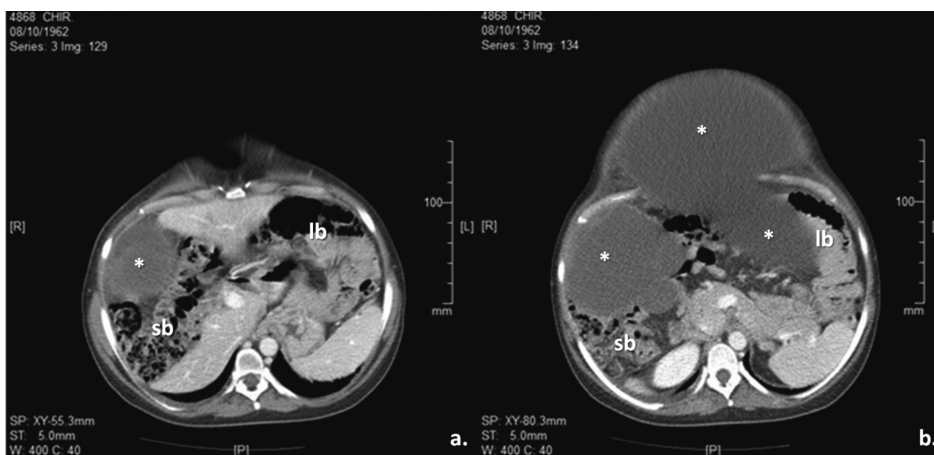


Fig. 3: TC scans: superior abdomen scans (A, B) showing upper dislocation of intra-abdominal organs (sb = small bowel; lb = large bowel) due to the presence of a giant multilobulated cystic mass (\*).

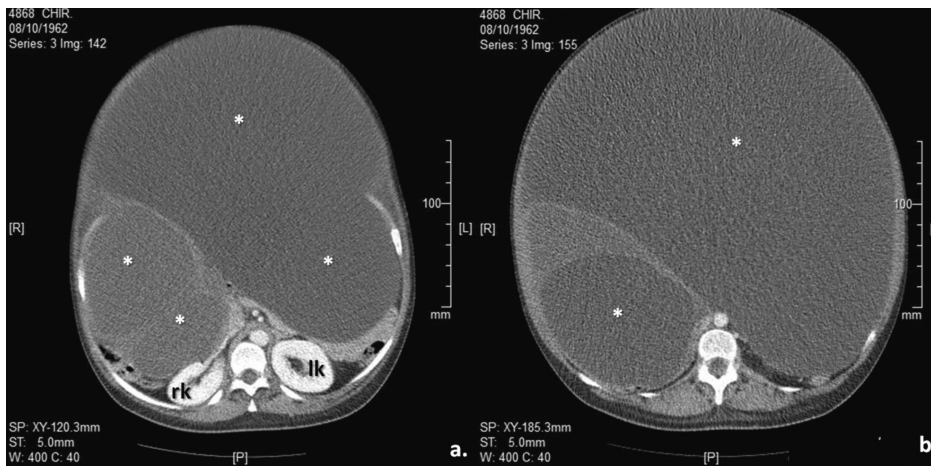


Fig. 4: TC scans: a. superior abdomen at the level of the kidneys (rk = right kidney; lk: right kidney) revealing retroperitoneal organs and vessels compressed by the mass (\*); b. mid level scan of the abdomen showing disappearance of intra-abdominal organs.

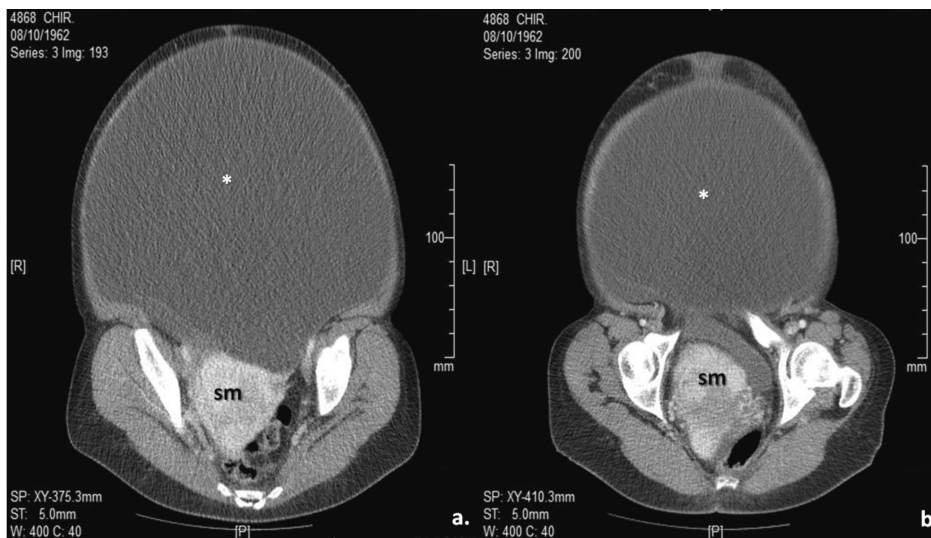


Fig. 5: TC scans: inferior abdomen at the level of the pelvis (a. and b. ); the cystic mass (\*) deepens in the pelvis where a solid mass (sm) is shown.



Fig. 6: Intra-operative finding: giant cystic mass is carefully removed out of the abdomen (*en bloc* resection).



Fig. 7: Intra-operative finding: the lower pole of the cystic mass seems to originate from a cystic ovarian neoplasm (in the upper zone of the picture).



Fig. 8: Surgical specimen: the complex cystic mass (left ovary cystic neoplasm on the left of the picture) measures 62 x 50 x 45 cm and weighs 38 kg, and contains 32 lt of serum-haematic fluid.

The patient, after an uneventful course, was discharged on the seventh postoperative day and is in good health (follow-up: 24 months).

## Conclusion

The Authors describe a case of abdominal compartment syndrome due to a giant ovarian serous cystadenoma, one of the largest reported in the literature. As the general and abdominal condition was not critical, surgery was deferred to achieve further more detailed diagnostic imaging; though it seems advisable to perform an emergency laparotomy in patients with abdominal compartment syndrome (ACS) grade II (IAP: 16 mmHg) when presenting as an acute abdomen.

## Riassunto

Gli Autori presentano un caso di cistoedano ovarico gigante sieroso determinante la comparsa di sindrome

compartimentale addominale; si tratta di uno dei più voluminosi cistoadenomi sierosi ovarici segnalati in letteratura. L'intervento chirurgico in questo caso è stato differito al completamento di un complesso iter diagnostico strumentale; tuttavia è consigliabile nei casi con sindrome addominale compartimentale di II grado con IAP di 16 mmHg eseguire un intervento chirurgico esplorativo in urgenza, se si presentano con il quadro clinico di addome acuto.

## References

1. Sujatha VV, Babu C: *Giant ovarian serous cystadenoma in a post-menopausal woman: A case report*. Cases J, 2009; (3)2:7875.
2. Kamel RM: *A massive ovarian mucinous cystadenoma: A case report*. Reprod Biol Endocrinol, 2010; 8:24.
3. Schneider CG, Scholz J, IZbicki JR: *Abdominal compartment syndrome*. Anesthesiol Intensivmed Notfallmed Schmerzther, 2000; 35(8):5232-239.
4. Sugerman HJ, Bloomfield GL, Saggi BW: *Multisystem organ failure secondary to increased intraabdominal pressure*. Infection, 1999; 27(1):61-66.
5. Harman PK, Kron IL, McLachlan HD: *Elevated intraabdominal pressure and renal function*. Ann Surg, 1982; 196:594.
6. Doty JM, Saggi BH, Blocher CR: *Effects of increased renal parenchymal pressure on renal function*. J Trauma, 2000; 48(5):874-77.
7. Mülâyim B, Gürakan H, Dagli V, Mülâyim S, Aydin O, Akkaya H: *Unaware of a giant serous cyst adenoma: A case report*. Arch Gynecol Obstet, 2006; 273:381-83.
8. Vizza E, Galati GM, Corrado G, Atlante M, Infante C, Sbiroli C: *Voluminous mucinous cystadenoma of the ovary in a 13-year-old girl*. J Ped Adoles Gynecol, 2005; 18(6):419-22.
9. Ozgun MT, Turkyilmaz C: *A giant ovarian mucinous cystadenoma in an adolescent: A case report*. Arch Med Sci, 2009; 5(2):281-83.
10. Cano López H, Cano Aguilar HE, Cano Aguilar FD: *Thirty-eight kilograms ovary cystoadenoma. Case report and literature review*. Ginecol Obstet Mex, 2007; 75(8):484-87.
11. Temiz M, Aslan A, Gungoren A, Diner G, Karazincir S: *Giant serous cystadenoma developing in an accessory ovary*. Arch Gynecol Obstet, 2008; 278(2):153-55.