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# GIANT OVARIAN FIBROMA . CASE STUDY

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Abstract

The most frequent tumours of the ovary in childhood and adolescence include dermoid cysts, teratomas. These present up to 25 % of all tumours of the ovary. Also frequent are pseudotumours – retention cysts. True epithelial tumours are diagnosed during adolescence and later. Hormonally active tumours and desmocytoma of the ovary, including fibroma, are rare in childhood and adolescence.

The presented case study describes a case of a 16-year-old patient hospitalised at the Department of Paediatric Surgery, Orthopaedics, and Traumatology in Brno. During the operation performed following previous pre-operative examinations, a 17-kg tumour was extirpated and histologically verified as an ovarian fibroma.

No similar case has been recorded by the authors as yet, and it is also considered rare in the literature.

Key words

Ovarian tumours, Fibroma

## INTRODUCTION

The ovary undergoes a complex embryonic and histogenetic development and the tumours growing in it are various. The tumours can be benign, semimalignant and malignant, cystic as well as solid and combined. Ovarian tumours can be functional and produce sexual steroids, but they can also be non-functional (*1*).

Pseudotumours are very frequent in the ovary, various physiological and pathological variants occur during the development of the follicles (follicular cysts, cysts on the yellow body, lutein cysts, endometroid cysts, polycystic ovary).

Tumours of the ovary, primarily clinically and histologically benign, can develop into malignant. This concerns a gradual transfer from the histologically benign forms through border time tumours up to clearly malignant tumours. The tumours grow from mature tissues (epithelial, mesenchymal), as well as from the rests of embryonal tissues. Ovarian tumours are divided into epithelial, mesenchymal, from lipoid cells, from germ (germinal) cells, gonadoblastomas, unclassified tumours of the ovary, and secondary ovarioncus.

Mesenchymal tumours are also called tumours from embryonal strips and in histological terms they consist of various cell types (granulosa cells, thecal, stromal, Sertolli and Leidig cells, cells resembling embryonic cells). They are further subdivided into tumours of granulosa cells (luteoma, sarcoid cells, theca granulosa), ovarian fibroma, thecoma, arrhenoblastoma, tumour from hilar cells, and gynandroblastoma.

Ovarian fibromas are mostly one-sided, have a fascicular structure with necrotic centres and pseudocysts, consist of elements of ovarian stroma, rank among benign tumours, are clinically still in most cases, sometimes they are part of the Meigs' syndromes (*2*).

Differential diagnoses of tumours of the ovary must take into account tumours of the large intestine, diverticulitis, mesenteric cysts, pregnancy, kidney descending to pelvis, retroperitoneal tumours, distant metastasis, pedunculated myoma of uterus, hydrosalpinx, tbc of salpinges (*1*).

It is advisable to use CT and ultrasound examination, laboratory examinations including oncological markers, cytology and, if necessary, laparoscopy for the diagnosis. In the case of smaller ovarian tumours and cysts, their torsion may occur and this then indicates abdominal emergency. In the case of inoperable tumours, the advance of the process is also determined by probatory laparotomy. Diagnosing and therapy always require a multidiscipline co-operation between gynaecologists and oncologists.

In the case of most benign tumours the therapy consists in a mere excision. One-sided adnexectomy is also recommended in the case of cystadenoma and solid ovarian tumour in young women as well as in women approaching the menopause; in the case of both-sided infliction of the ovary and symptoms of dissemination in the peritoneum total hysterectomy should be performed with both-sided adnexectomy. If the tumour grows beyond the ovary to the pelvis or enterocoele, radical abdominal hysterectomy with two-sided adnexectomy is carried out along with resection of the omentum, which may contain microscopic metastasis. If we are unable to perform total extirpation of the tumour, it is advisable to perform diminishing resection of everything possible. Subsequently, actinotherapy and chemotherapy are usually applied. Enzymatic therapy and immunotherapy have been used in addition.

The prognosis related to benign tumours of the ovary is good, in the case of malignant tumours it depends on the stage of the histological finding and the extension of the tumour.

## CASE STUDY

The following case study presents a case of a 16-year-old patient, with a diagnosis showing a giant ovarian fibroma.

In 1999, the surgical clinic admitted a 16-year-old patient B.S., who had been sent here by a general practitioner for a specialised examination and exclusion of abdominal emergency. On the same day early in the morning, the girl started feeling

a strong griping pain in the abdomen that she herself attributed to a mistake in her diet on the previous day when she had eaten a greater quantity of fruit. She localised the pain to the left hypogastric region, she did not vomit, did not suffer from nausea or fever, refused any traumatic mechanism; she had her last menses 7 days before and the last stools about three days before.

A clinical examination at the outpatient department showed a rigid resistance in the left meso- down to hypogastrium, feeling severely painful, with full percussion, of a size of 20 x 15 cm; the per-rectum examination showed a normal medical finding. The patient was in an overall sound condition, without fever, without symptoms of infection, anicteric, without cyanosis, cardiopulmonarily compensated.

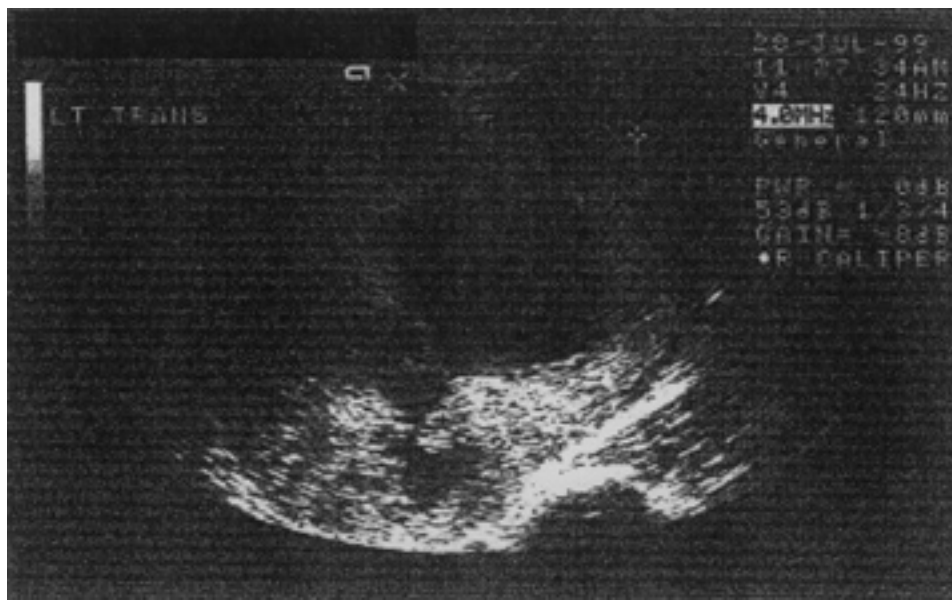


*Fig. 1*
Ultrasonic examination

The girl underwent ultrasonic examination and a simple picture of the abdomen was made. The ultrasonic examination diagnosed an object in the left half of the abdominal cavity, without symptoms of vascular supplementation and due to its size it was not possible to identify precisely where it grew from (*Fig. 1*). A simple x-ray scan (*Fig. 2*) showed opacity in the left part of the abdomen, corresponding to the resistance showed by the ultrasound.

The patient was admitted to an intensive care unit. Following admission to the intensive care unit, a laboratory examination was made, which showed only a slight elevation of leukocytes, the other values being within physiological limits (*Table 1*).

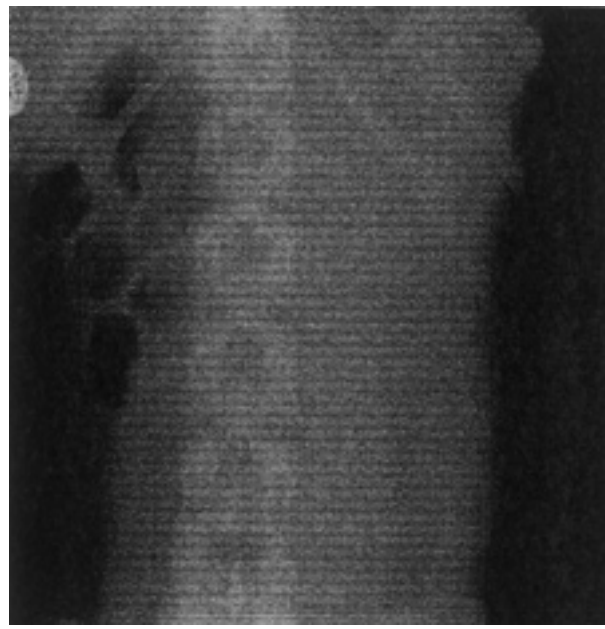

*Fig. 2*
X-ray scan of abdomen

*Table 1*
Laboratory examination

| Blood count: | Liver tests: | Ions: | Coagulation: |
|---|---|---|---|
| Hb 144 g/l<br>leu 11.9.$10^9$/l<br>ery 4.98.$10^{12}$/l<br>thromb 199.$10^9$/l<br>htc 0.42 | bilirubin total<br>18µmol/l<br>ALT 0.21 µkat/l<br>AST 0.28 µkat/l | Ca 2,34 mmol/l<br>K 3.82 mmol/l<br>Na 137.2 mmol/l<br>Cl 98.6 mmol/l | INR 1.16<br>Et. neg.<br>FBG 4.1g/l<br>Thr.č. 18.9 s |
| Other values: | | | |
| CRP 0, Amylase 0.131 µkat/l, Urea 4.76 mmol/l, Creatinin 91.81 µmol/l, Glucose 10 mmol/l, Osmolality 301 mosm/kg $H_2O$ | | | |

On admission, an acute CT examination of the abdomen (*Figs. 3, 4*) was made showing that the liver, spleen and both kidneys and the uterus were without pathological finding. A major ascites was identified, the left kidney was dislocated by a tumorous object of a size of 15 x 14 x 10 cm with a share of a cystoid and solid components bulging the abdominal wall and filling up the upper part of the abdomen on the left side. The ovary could not be differentiated with certainty, major blood vessels in the abdominal cavity did not show any symptoms of thrombosis.

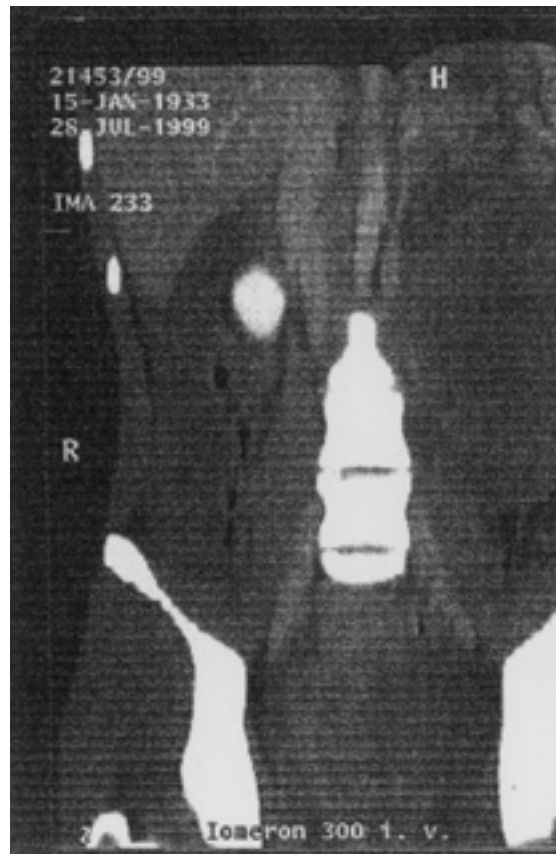


*Fig. 3*
CT scan 1

Following the CT examination a decision was taken to perform an acute operation.

The operation commenced 3.5 hours after the admission and the duration of the operation was 120 minutes. For uncertainties in the diagnosis the lower central laparotomy was selected as the method of operation.

The operation finding was as follows (*Fig. 5*): the abdominal cavity contained a great number of amber transudates and a giant tumorous resistance of a size of 20 x 15 cm coming from the right ovary was found. The tumour including its pedicle was prepared with ligation of major blood vessels and totally extirpated. The tumour weighed 17 kilogrammes. Subsequently, the abdomen was irrigated, the cyst of the left ovary was extirpated, and samples were taken for oncological examination. No further pathological changes in the abdominal cavity were detected, the lymph nodes were of normal size, the liver showed no pathological finding. Drainage was introduced to the Douglas's space and the surgical wound was closed in layers.

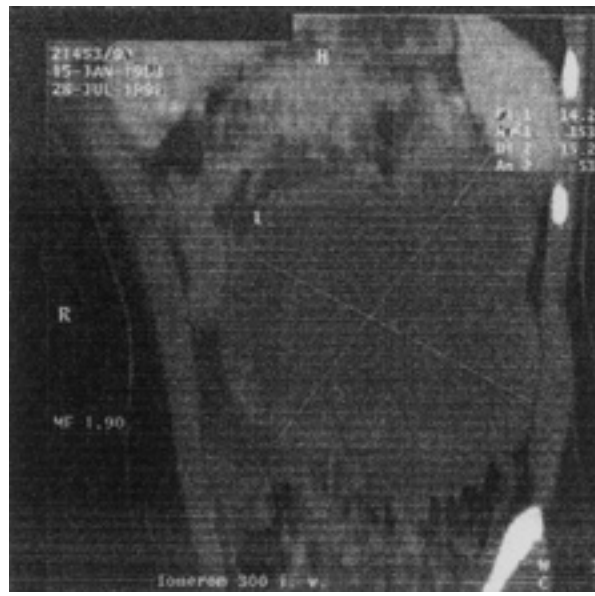


*Fig. 4*
CT scan 2

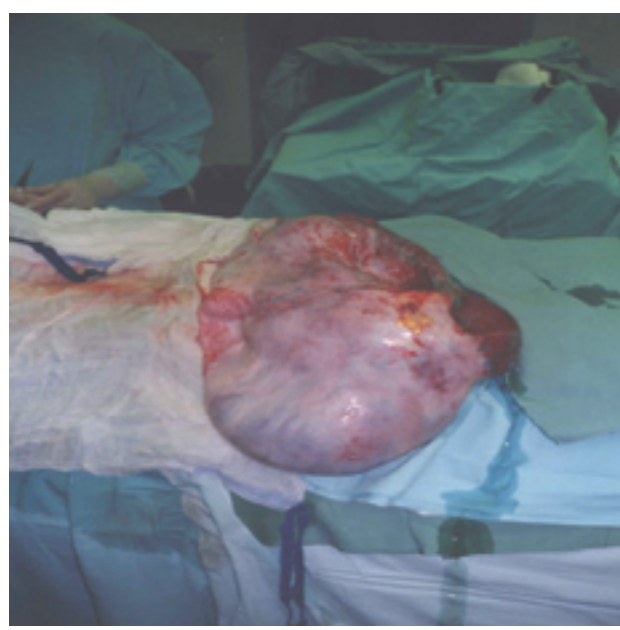

*Fig. 5*
Operation finding – giant ovarian tumour

After the operation, Mefoxin, Dicynone, Kanavit, Tramal, and infusion solutions with ion correction were administered to the patient intravenously. Transfusion after the operation was not necessary.

Following agreement with the oncologists, oncological markers – α-fetoprotein, free β-HCG, and CEA – were taken. The values ranged within physiological limits.

Peroral nutrition started on the second day after the operation and starting from the sixth day the patient received lighter meals.

The histological sections verified the tumour as an ovarian fibroma; no signs of malignancy were detected (*Fig. 6*).

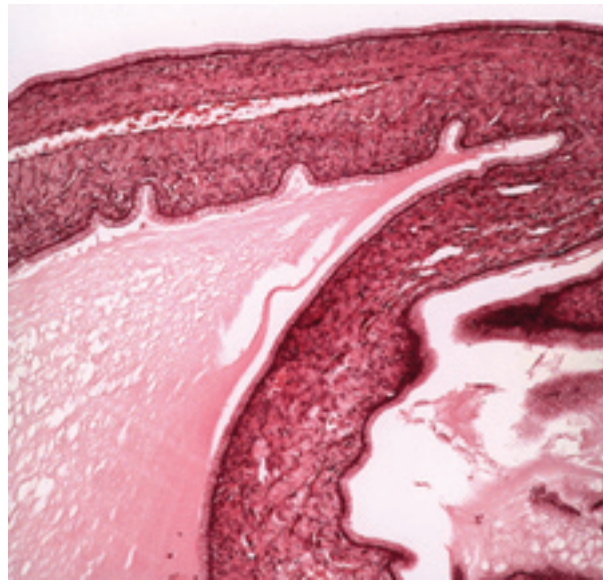

*Fig. 6*
Histology – ovarian fibroma

As early as the fifth day after the operation, the patient was transported to a standard ward, and on the ninth day she was released from hospital for home care. The girl arrived at the outpatient department for a follow-up examination after 2 weeks and 4 weeks after being released from the hospital. Subjectively, she did not experience any problems, her abdomen was painless, without signs of peritoneal irritation, no resistance was found, the operation wound healed per primam intentionem. The follow-up ultrasound examination was normal.

Besides check-ups at the surgical outpatient department, the patient went through regular gynaecological and oncological examinations. No tumour recurrence or other pathological finding was detected. Now, four years after the operation, the patient still experiences no problems.

## DISCUSSION

The most frequent tumours of the ovary in childhood and adolescence include dermoid cysts, teratomas. These present up to 25 % of all tumours of the ovary. Inside a solid capsule there are centres of bone tissue, skin, hair, etc. What is also frequent are pseudotumours – retention cysts occurring after puberty, which can result in irregular bleeding. True epithelial tumours are diagnosed during adolescence and later. Likewise, ovarian carcinoma and secondary Krukenberg's carcinoma are more frequent in adolescence. Hormonally active tumours are rare in childhood.

Likewise, desmocytomas of the ovary, including fibromas, are rare in childhood and adolescence. Fibromas are included in the group of benign tumours, they are in most cases clinically still; however, in rare instances they can reach giant dimensions.

Gargano et al. reported thirty-four cases of ovarian fibroma. The early symptoms were pelvic pain and abnormal uterine bleeding. The mean age was 63 years, except for one that was 23 years old. All the patients were treated with either conservative or radical surgery (*3*).

Fibromas can be part of the so-called "Meigs' syndrome", characterised by ovarian fibroma, ascites, and one-sided hydrothorax (*2*). In his study of tumours of the ovary, Sivanesaratnam states that ovarian fibromas occur mainly in patients at reproductive age. Over a 20-year period, he presented 23 cases (3 % of all benign tumours of the ovary), which were mostly one-sided, in 70 % left-sided with an average weight of 959 g (*4*).

The ovarian tumour – fibroma that we extirpated weighed 17 kg. The available literature considers such size as rare. Colovic describes a cystadenofibroma of a size of 55 x 35 x 35cm and a weight of 29 kg found in a 62-year-old patient (*5*).

Laufer presents a case study of a 12-year-old patient with ovarian fibroma (*6*).

What is of crucial importance is differential diagnosis. Studzinski presents a case study where a giant fibroma growing from the mesocolon transversum imitated an ovarian tumour (*7*). If the clinical picture shows ascites and an elevated level of oncomarkers, it is almost always a malignant tumour. Spinelli describes a case where a patient with ovarian fibroma, histologically benign, showed ascites and even an elevated level of CA 125 (*8*). Mainguene recorded a case of a 22-year-old patient who experienced pain in the abdomen and lower abdomen. An ovarian mass of a size of 13 cm in diameter was detected and identified to be no tumour but a pseudotumour – massive edema of the ovary (*9*).

## CONCLUSION

No tumour of similar size has been recorded in the documents of our clinic and the available literature considers this size as rare. The treatment is purely surgical requiring multidisciplinal co-operation between gynaecologists and oncologists.

It is only surprising that the patient's parents and the patient herself did not notice changes in her body as a result of the growing tumour.

## OBROVSKÝ OVARIÁLNÍ TUMOR – KAZUISTIKA

S o u h r n

Častými ovariálními tumory v dětství a adolescenci jsou dermoidální cysty, teratomy. Tvoří více než 25 % všech nádorů ovaria. Rovněž časté jsou pseudotumory – retenční cysty. Pravé epiteliální nádory jsou diagnostikovány v období dospívání a později. Vzácnými nádory, které se vyskytují v dětství a adolescenci, jsou hormonálně aktivní nádory a ovariální desmocytomy, včetně fibromů.

V uvedené kazuistice autoři předkládají případ 16leté pacientky hospitalizované na Klinice dětské chirurgie a ortopedie a traumartologie v Brně. Při operačním zákroku, který byl proveden po předchozích předoperačních vyšetřeních, byl pacientce extirpován 17 kg nádor, jenž byl histologicky verifikován jako fibrom.

Podobný případ autoři dosud nezaznamenali a v dostupné literatuře je považován za raritní.

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