CLINICAL OBSERVATION OF ACUTE INTESTINAL OBSTRUCTION CAUSED BY GIANT GRANULOSA CELL TUMOUR OF THE OVARY

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Abstract. Ovarian granulosa cell tumours (OGCT) are non-epithelial neoplasms of the ovaries and belong to the group of granulosa-stromal tumours. The most likely source of these tumours’ development is granulosis of the primordial follicles of the ovary as a result of hormonal imbalance.

The aim of the study is to represent a clinical observation of acute intestinal obstruction caused by a giant ovarian granulosa cell macrofollicular tumour.

A woman, aged 52 years, medical history № 2579, was admitted to the surgical department of Communal Non-Profit Enterprise (CNPE) City Clinical Hospital (CCH) № 1 in Ivano-Frankivsk as an urgent patient with complaints of nausea, vomiting, delayed passage of flatus and defecation, general malaise, abdominal distention. During the laboratory and instrumental examination, a giant tumour of the abdominal cavity was revealed; it has led to the compression of internal organs and the development of small- and large-intestinal obstruction. The operation was performed: middle-median laparoscopy, removal of a giant cyst of the right ovary. Complete hysterectomy with appendages, drainage of the abdominal cavity were also performed.

During the operation, a giant tumour with dimensions of 65x70x50 cm, of dense but elastic consistency, pale-pink in color, with multiple chambers of different diameters filled with cloudy, yellow liquid was revealed. The reamed uterus with appendages and a large omentum were also given for pathological examination. Pathohistological examination results included: 15824-8- granulosa-cell ovarian tumour; 15815-7- uterus - plethora; 15818-20-ovary - white bodies, fallopian tube - chronic salpingitis; 15812-4- omentum - focal hemorrhages. The postoperative period was uneventful, the patient was referred to a gynecologist-oncologist for consultation and treatment.

Key words: intestinal obstruction, granulosa-cell tumour of the ovary.
Results. The results of the study are significant and close to the result of hormonal imbalance [1,2]. Tumours make up, according to various authors, from 0.6% to 7.5% of all solid neoplasms of the ovaries. OGCT, or follicle, are quite rare tumours, and therefore they are poorly-studied, but at the same time, they are the most frequent hormone-producing neoplasms of the ovaries. The disease occurs in different periods of a woman’s life, but more than six cases are detected at the age of 40-60 years. In 1977, R.E. Scully singled out 2 types of OGCT – adult and juvenile ones. The adult version makes up about 95% of all OGCT cases. Microscopically, two types of the tumour are determined in the histological preparations of the adult type of OGCT: macrofollicular and luteinized. The macrofollicular type is more common in young women, the tumour reaches significant size and contains large cavities, sometimes with serous, mucinous or hemorrhagic fluid. The degree of malignancy of a granulosa cell tumour is often difficult to determine. One of the prognostically unfavourable parameters is the size of the tumour larger than 5 cm and the presence of invasion. In luteinised tumour or a lipid follicle, tumour cells are characterized by a diffuse location, or in the form of groups of different size and shape. A favourable prognosis and good long-term treatment results are achieved in early diagnosis and timely adequate treatment, as in all oncological diseases [2,3,4,5].

Background. Ovarian granulosa cell tumours (OGCT) are non-epithelial neoplasms of the ovaries and belong to the group of granulosa-stromal tumours. The most likely source of the development of these tumours is granulosis of the primordial follicles of the ovary as a result of hormonal imbalance [1,2]. Tumours make up, according to various authors, from 0.6% to 7.5% of all solid neoplasms of the ovaries. OGCT, or folliculomas, are quite rare tumours, and therefore they are poorly-studied, but at the same time, they are the most frequent hormone-producing neoplasms of the ovaries. The disease occurs in different periods of a woman’s life, but more than six cases are detected at the age of 40-60 years. In 1977, R.E. Scully singled out 2 types of OGCT – adult and juvenile ones. The adult version makes up about 95% of all OGCT cases. Microscopically, two types of the tumour are determined in the histological preparations of the adult type of OGCT: macrofollicular and luteinized. The macrofollicular type is more common in young women, the tumour reaches significant size and contains large cavities, sometimes with serous, mucinous or hemorrhagic fluid. The degree of malignancy of a granulosa cell tumour is often difficult to determine. One of the prognostically unfavourable parameters is the size of the tumour larger than 5 cm and the presence of invasion. In luteinised tumour or a lipid follicle, tumour cells are characterized by a diffuse location, or in the form of groups of different size and shape. A favourable prognosis and good long-term treatment results are achieved in early diagnosis and timely adequate treatment, as in all oncological diseases [2,3,4,5].

The aim of the study was to represent a clinical observation of acute intestinal obstruction caused by a giant granulosa cell macrofollicular tumour of the ovary, which is a fairly rare and understudied tumour, and many issues are quite controversial. This is explained by their relatively rare appearance, and, accordingly, the small number of analyzed observations, which does not provide a reason to draw conclusions about the main issues of the problem with the required degree of reliability. We believe that the familiarization of specialists with the below-described clinical case of acute intestinal obstruction caused by a giant granulosa cell macrofollicular tumour of the ovary, which occurred in our practice, will be useful for family doctors, gynecologists and surgeons.

Case presentation. A woman aged 52 years, medical history № 2579, was admitted to the Surgical Department of the CNPE CCH № 1 in Ivano-Frankivsk as an urgent patient with complaints of nausea, vomiting, delayed passage of flatus and defecation, general malaise, abdominal enlargement.

It is known from the anamnesis of the disease that these complaints appeared 3 days before the moment of hospitalization. A gradual increase in the size of the abdomen was observed for about two years, which the patient has associated with a banal increase in body weight.

Objective data: skin and visible mucous membranes are pale-pink, subcutaneous adipose tissue is poorly developed. Hemodynamics is stable. Blood pressure is 130/80 mm Hg. HR – is 84 beats per minute. The tongue dries up, during examination the abdomen is sharply enlarged, during palpation there is a dense tumour-like formation in all parts of the abdomen, palpation is slightly painful. Peritoneal symptoms are negative, peristalsis is not heard. During a rectal examination, the ampulla of the rectum is empty, swollen, and the tone of the sphincter is reduced.

Discussion. Clinical and laboratory examination revealed: general blood test: Hb-93 g/l, ER – 2.88 x10^12, CP 1.0, L – 5.7x10^9 ESR 37 mm/h, e – 0%, p – 7%, c – 76%, l – 13%, m – 4%. General analysis of urine: count 100.0, of straw-yellow colour, ph-6.0, specific gravity – 1020, protein-traces, squamous epithelium 2-4 per field, leukocytes – 5-8 per field. Coagulogram: prothrombin time – 15.4", prothrombin index – 83%, INR – 1.25, amount of fibrinogen – 497 g/l. Biochemical blood analysis: total protein – 52.1 g/l, creatinine – 62 mmol/l, urea – 3.4 mmol/l, total bilirubin: total – 7.2 mmol/l, direct – 1.3 μmol/l, AST – 10.4 IU/l, ALT – 8.3 IU/l, potassium – 3.71 mmol/l, sodium – 145.2 mmol/l, chloride – 103.9 mmol/l, blood sugar – 4.8 mmol/l. Electrocardiogram: within the age norm. X-ray of chest organs: lungs and heart within age-related changes. X-ray of the abdominal cavity organs: signs of small- and large-intestinal obstruction. (Fig. 1.)

Ultrasound examination of the abdominal cavity: the gallbladder is contractile after eating, the stomach and duodenum have the contents. Pancreas: head – 2.3 cm, body – 1.4 cm, tail is not visualized, compacted. Kidneys: size and shape are normal, parenchyma of the increased echogenicity with hydrophilic pyramids. Intestinal loops are dilated, more on the left. Peristalsis on the left is followed, on the right it is close to pendulum-like. There is a small amount of free fluid in the abdominal cavity and pelvis (Fig. 2)
Fig. 1. Kloiber’s bowls in the left half of the abdominal cavity.

Fig. 2. Intestinal loops are dilated, more on the left, on the right – with the pendulum-like peristalsis.

Computed tomography of the abdominal cavity: the abdominal cavity and small pelvis are filled with a pathological nodular formation (growth from the ovaries cannot be denied) of a large size, about 30 cm sagittally, 35 cm long, axial size 29x20.5 cm, its structure is with a predominance of a cystic component, but is determined at the same time as solid one. Marked compression of the internal organs and main vessels is determined, the loops of the small intestine are shifted to the left with an expanded lumen up to 5 cm. There are signs of a tumour of the abdominal cavity and small pelvis, small intestinal obstruction, liver hemangiomas.

The patient is performed an emergency surgery. Preoperative diagnosis: acute intestinal obstruction. Tumour of the abdominal cavity and small pelvis. The operation was performed: medial-median laparotomy, removal of a giant tumour of the right ovary. Complete hysterectomy with appendages, drainage of the abdominal cavity (Fig. 3, 4, 5, 6).

Fig. 3. The stage of the operation to release the tumour from the abdominal cavity

Fig. 4. The stage of separation of the junction between the loop of the small intestine and the tumour

Fig. 5. Tumour after complete removal from the abdominal cavity
Macropreparation: a tumour with the dimensions of 65x70x50 cm, of dense-elastic consistency, of pale-pink colour, with the multiple chambers of different diameters, filled with cloudy, yellow liquid. The removed uterus with appendages and a large omentum were also sent for histopathological examination. The results of the pathohistological examination included: 15824-8- granulosa-cell ovarian tumour; 15815-7- uterus - endometrium is atrophic, cervix – cervicitis; 15821-3 – fallopian tube – plethora; 15818-20-ovary – white bodies, fallopian tube – chronic salpingitis; 15812-4- omentum – focal hemorrhages.

The postoperative period proceeded according to the severity and volume of the surgical intervention. The patient developed anemia of moderate severity of the mixed genesis, iron preparations and blood transfusion were prescribed.

The patient was discharged from the hospital in a satisfactory condition on the 12th day after the operation and referred for consultation to an oncologist.

At the follow-up examination 1 month after surgery, the general condition of the patient is satisfactory. According to the computer tomography, no pathological changes in the organs of the abdominal cavity were detected. The patient receives chemotherapy courses.

At the visit 6 months after the operation, the patient’s condition is satisfactory, she has gained weight up to 15 kg. No pathological neoplasms were detected on the control computer tomography of the organs of the abdominal cavity and pelvis. The patient is under the supervision of an oncologist.

Conclusions
1. Establishing a diagnosis of granulosa cell tumour of the ovaries in the pre-operative stage, it is sometimes a significant problem that requires experience and a multidisciplinary approach.
2. Further study of the clinical course, possible complications of the ways and causes of metastasis, as well as a morphological study of the histogenetic varieties of granulosa cell tumour of the ovaries, can give us the new opportunities for successful treatment and timely diagnosis of this disease.

Ethical standards (See Statement of Human and Animal Right).

Conflict of Interest
The authors declare no conflict of interest.

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References

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