CASE REPORT

Ovarian dysgerminoma and acute abdomen

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Abstract

Background: **Ovarian dysgerminoma cases are very rarely presented together with acute abdomen. The purpose of this study is to present dysgerminoma ovarii with abdominal pain in lower right abdominal part after abdominal trauma as an abdominal emergency.**
***Patients and methods*: Our 12-year old female patient was admitted to our hospital after traffic accident with abdominal trauma. On physical examination the abdomen was acute and the mass in lower abdomen was palpated. Ultrasound and CT examinations showed the presence of large, multilobulated and predominantly solid pelvic mass. Fluid was found in the lower part of pelvis. Immediate exploratory laparotomy was performed. It exposed a superficial actively bleeding tumour vessel. We stopped the bleeding and did a biopsy of the tumour because it was too big for surgical treatment.**
***Conclusion*: Ovarian dysgerminoma should be part of the differential diagnosis in female children with acute surgical abdomen when a solid mass is detected by ultrasonographic scan *(Fig. 4, Ref. 11)*.**
Key words: acute surgical abdomen, children, ovarian dysgerminoma.

Ovarian dysgerminoma arrives from undifferentiated primordial germ cells (1). Dysgerminoma is a rare female germ cell tumor histologically and immunohistochemically corresponding to seminomas (2). Germ cell tumors are the most common ovarian tumours in childhood and adolescence and generally are unilateral. Tumours may be bilateral in 5 % to 10 % of patients. This tumour accounts for 1% of all ovarian cancers and for 50 % of all ovarian germ cell malignancies (3). The diagnosis is made by physical examination (abdominal mass, pain), ultrasound and CT scan. Tumor markers are very important because they indicate biological changes signalling the existence of malignancy in host organism. In our patient the markers were not necessary because the exploratory laparotomy and subseqrent tumour biopsy were performed immediately. The treatment of dysgerminoma is based on surgical resection. If the tumor is too big it is necessary to take biopsy and if necessary to subsequently apply chemotherapy. When the tumor shrinks, salpingo-oophorectomy is necessary.(4)

Patient and methods

A 12-year old female was admitted to our hospital after a traffic accident. She had strong abdominal pain and the lower part of her abdomen was distended. On physical examination her abdomen was acute with a large mass in the lower part. The rectal examination revealed a large lobulated solid tumour in her pelvis. Ultrasound examination and CT scan showed the presence of a large, heterogeneous, predominantly solid mass 10x9x10 cm (Figs 1 and 2) Colour flow imaging showed intratumoral flow signal. Fluid was found in the pelvis and exploratory laparotomy was done. A superficial tumoral vessel was found to be bleeding actively 5). We stopped the bleeding and done the biopsy of the tumor because it was too big for surgical treatment. The peritoneal fluid was examined cytologically. If ascites is not present, it is important to obtain peritoneal washing before the tumor is manipulated. The diagnosis of dysgerminoma was confirmed by biopsy obtained during surgery. Pathohistological examination showed that dysgerminoma was involved and therefore the preoperative chemotherapy was done. Both, preoperative and appropriate postoperative chemotherapies can improve the survival in patients with advanced tumours. We took PEI (cisplatin, etoposide, iphosphamide) chemotherapy regimen because it is highly effective in patients with advanced

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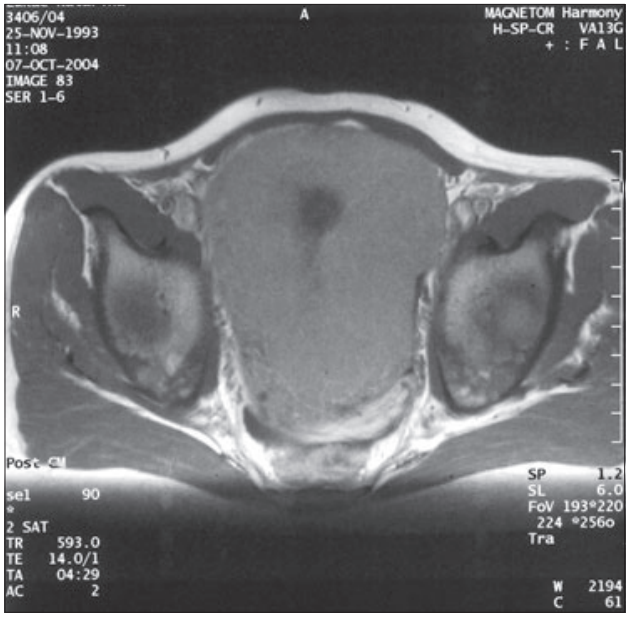

Fig. 1. CT scan before surgical treatement.

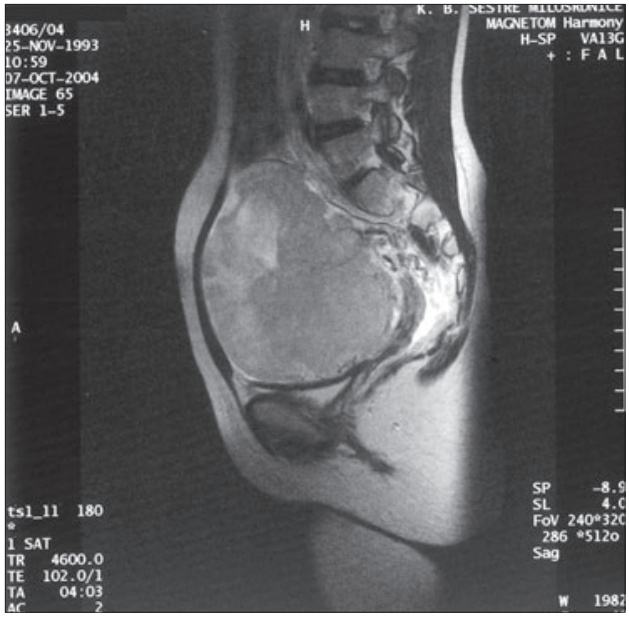

Fig. 2. CT scan before surgical treatement.

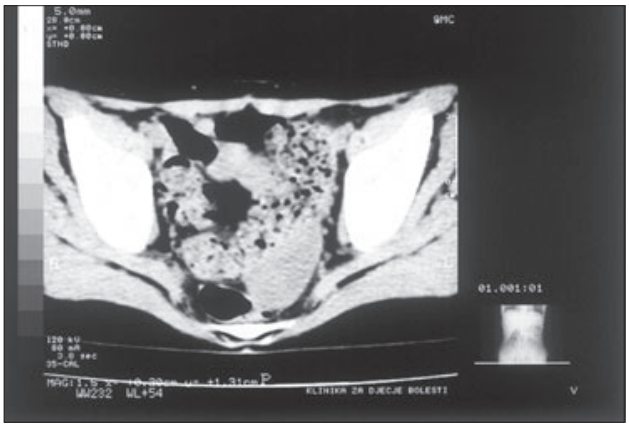

Fig. 3. CT scan after 2 PEI preoperative chemotherapy.

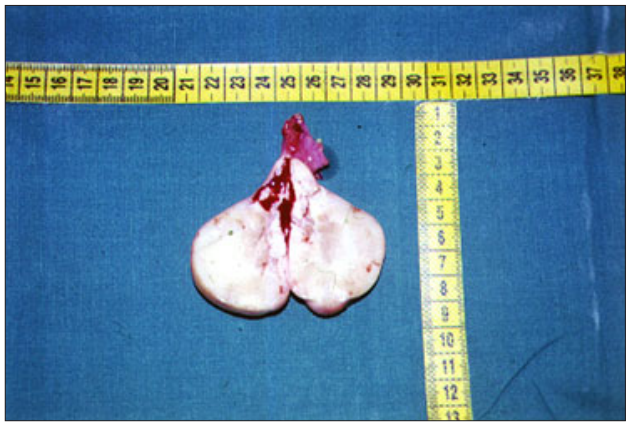

Fig. 4. Dysgerminoma ovarii after operative treatment.

ovarian dysgerminoma (6). After 2 PEI chemotherapy the tumour shrank to the size of 4x4x2 cm (Fig. 3). Surgical treatment was done (salpingo-oophorectomy) (Fig. 4). During laparotomy the entire diaphragm, both paracolic gutters, pelvic nodes on the side of the ovarian tumor, para-aortic lymph nodes and the omentum were examined carefully. The contralateral ovary was also carefully examined and subjected to biopsy. It is desirable to obtain serum levels of alpha fetoprotein (AFP), human gonadotropin (HCG) and serum lactic dehydrogenase as soon as the diagnosis is established since the persistence of these markers in the serum after surgery indicates an unresected tumor. The first postoperative chemotherapy was given 10 days after the operative treatment. The patient was treated with 8 cycles of PEI chemotherapy and remains free of disease 16 months later. After 1 year when the levels of markers were low the second exploratory laparoscopic operation was performed (7). Cytological smears and biopsy specimens from the remaining ovary, peritoneum and subdiaphragmatic area were obtained laparoscopically (8).

Discussion

Ovarian dysgerminoma is most common malignant germ cell tumor of ovary. 1 % of all ovarian cancers are dysgerminoma cases. 80 % of these malignant tumor cases occur during 2–3rd age decades and their mean and median occur in late teens and early twenties. In 5 % of cases it occurs under the age of 10 (9). In our case report the first step was the explorative laparotomy because fluid was found in the pelvis and signs of acute surgical abdomen were found. After the explorative laparotomy and stoppage of the bleeding we did the biopsy of the tumor because it was too big for surgical treatment. Tumor markers were elevated before chemotherapy. Serum HCG was increased twice and se-

rum lactic dehydrogenase was increased three times when compared with the normal level in population. After the operative treatment and 3 cycles of PEI chemotherapy, tumor markers became normal. Tumor markers have to be used to monitor the disease course in patients in remission or in patients undergoing surgery, radiation or chemotherapy. Currently, tumor markers are primarily used to help to assess the tumor response to the treatment and to check for the recurrence.

Conclusion

Ovarian malignant dysgerminoma may be present in association with acute abdomen as a result of torsion, passive blood congestion, rupture of the tumorous mass, rupture of superficial tumoral vessels and subsequent intra-abdominal haemorrhage. We based our diagnosis on physical examination, ultrasound and CT examinations and exploratory laparotomy. The response of dysgerminoma to PEI chemotherapy was excellent and the surgical treatment was without any complications. Pure ovarian dysgerminoma treated with surgery and chemotherapy shows high complete remission rates and excellent survival rates. As for children, appropriate chemotherapy following surgery might be the best choice (10). If treated properly, the patients can be cured. The prognosis of dysgerminoma is excellent and survival has been achieved in 90 % of cases (11).

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