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OVARIAN CARCINOMA IN CHILDREN: A CASE REPORT

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Abstract: Pediatric germ cell tumors (GCTs) are the most important rare tumors in childhood and adolescence and are often asymptomatic until they become an adnexal mass, compressing neighboring structures, associated with increased alpha-fetoprotein and abdominal or pelvic pain. In the present study, we report the case of a patient with fever and presence of abdominal tumor that was submitted to surgery for removal of extensive ovarian tumor. The importance of the best way of treating germ cell neoplasia, as well as the size of the surgical piece removed from the patient, motivated the study and report of the case.

Keywords: pediatric surgery, ovarian cancer.

Introduction

Tumors of the genitofemoral tract in children and adolescents are uncommon. Among these tumors, ovarian cancer is the most frequent, being found in up to 1% of all childhood cancers. Ovarian neoplasms exhibit a wide variety of histological features. They are divided into three main groups: epithelial tumors, germinative tumors and stromal tumors. In adults, ovarian epithelial carcinomas account for 90% of all ovarian cancers. In children, however, the most common ovarian cancer is not epithelial, most often its ovarian cancers arise from germ cells.

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Malignant germ cell tumors (GCTs) are a rare and heterogeneous group of tumors that account for 3% of pediatric cancers. Generally, GCTs predominate in female children and under the age of 15 years. The age distribution of GCTs is bimodal, in which the first peak is seen before the age of 1 year and the second peak begins in adolescence. Rates of GCT incidence have increased in children in Europe, the United States and Australia, and the reason for this elevation is unknown. GCTs are thought to originate from the primordial germ cells of embryonic development, which migrated during embryogenesis along the midline of the body to the gonadal ridges.

Case Report

Patient M.L.M.C, 11 years old, female, sought medical care in September 2016, due to fever and tumor in abdominal region that increased suddenly in one week, associated with constant irritation, weight loss and vertigo. On physical examination, the patient presented a general state of decay, paleness and enlargement of the abdomen in uterus topography with presence of tumor. Complementary tests were requested: blood count with hemoglobin of 9.8 g / dL and leukocytes of 14,700 / mm^3, imaging tests that presented tomography of the abdomen with a large heterogeneous, solid, cystic mass occupying the pelvic cavity in the upper floor of the abdomen, compressing right distal ureter, with consequent and moderate hydronephrosis on the right, associated with ascites, permeating the central region by a heterogeneous area with a fatty and bone component. It had negative B-hCG and alpha-fetoprotein of 43,390 ng / mL. The diagnostic hypothesis after the complementary exams was ovarian tumor. We asked for the opinion of the pediatric surgeon who indicated surgical treatment with right salpingo-oophorectomy and omentectomy.

After surgery, the surgical specimen (Figure 1) was sent to a histopathological report that revealed mixed malignant germinal neoplasm of ovary compatible with endodermal sinus tumor, measuring 20.9 cm on its largest axis. Undetected vascular, perineural and lymphatic invasion. Necrosis present in large areas. Integral ovarian capsule. Free surgical margins of

neoplasia. Left ovary with preserved parenchyma. The patient after the surgical procedure was referred to the beginning of the chemotherapy treatment.

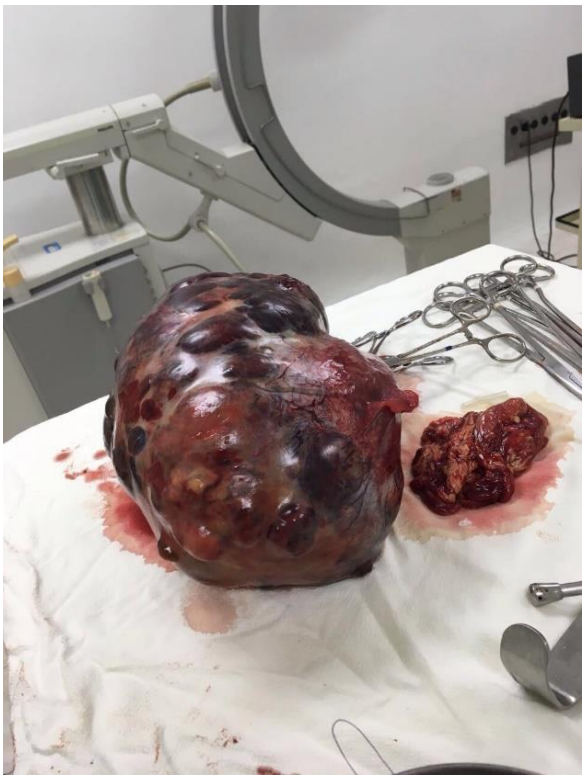

Figure 1: Part surgical removal of the patient

Discussion

In the first two decades of life, on average 70% of ovarian tumors are of germinal origin and one third of these are malignant. Malignant ovarian germ cell tumors (TMCGOs) account for 5% of all ovarian malignancies in Western countries. They occur mostly during adolescence and early adulthood, with decisions about treatment being a challenge for the gynecological oncologist. These tumors usually have symptoms of abdominal pain and a palpable pelvic abdominal mass. In about 10% of women, the mass can grow rapidly and present acute abdominal pain related to capsular distension, necrosis, hemorrhage, rupture or torsion of the ovarian tumor. The initial study should include serum tumor markers, pelvic ultrasound, and computed tomography of the abdomen and pelvis if extra-ovarian metastases are suspected. Chest radiography is important because TMCGOs may metastasize to the lungs

or mediastinum. Mixed germ cell tumors can produce any of the tumor markers, or none, depending on the type and amount of elements present. Tumor markers such as alpha-fetoprotein (AFP), lactate dehydrogenase (LDH) and beta-chorionic gonadotrophic hormone (b-hCG) may serve as an adjunct in initial diagnosis, monitoring during therapy and post-treatment surveillance. A karyotype should be requested preoperatively in all premenarcheal girls because of the propensity of these tumors to arise in dysgenetic gonads.

There are two important contributing factors to the prognosis of GCT: first, the majority (71%) is detected in stage I; and second, they respond well to surgery and chemotherapy, leading to a 5-year survival of 95.6% and 73.2% in stage I and advanced stages, respectively. Due to this excellent prognosis of germ cell tumors (GCTs), the overall outcome of ovarian cancer in children is excellent compared to that of adults2. The modern surgical approach to TMCGOs was derived from data that emerged from several large studies and from the Armed Forces Pathology Institute in the 1970s, noting that most TMCGOs are unilateral. During surgery, routine contralateral ovary biopsy should be avoided because of the risk of future infertility related to peritoneal adhesions or ovarian failure. Avoiding indications of unnecessary surgeries and refined technique are therefore of paramount importance. A good surgical strategy associated with close clinical, radiological and serological surveillance for stage I TMCGO is emerging as a safe option. Surgical staging includes evaluation of peritoneal fluid cytology, biopsy of any suspected areas on peritoneal surfaces, sampling of retroperitoneal lymph nodes, including pelvic and para-aortic lymph nodes, and infra-colic omentectomy.

Conclusions

Germ cell tumors have different degrees of malignancy and are the most frequent before puberty. The prognosis is directly related to its early diagnosis and therapy. Laparotomy is used as a treatment, with annexectomy necessary in case of malignancy, although gonads are of fundamental importance in the child-juvenile age for sexual maturation.

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