

INTRAOPERATIVE FINDINGS OF ADNEXAL MASSES AT CAESAREAN SECTION IN 11-YEAR PERIOD

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Summary

Finding of adnexal masses during pregnancy is an exceptional event. The incidence is less than 5% and most cases resolve spontaneously as the pregnancy progresses. Our goal was to describe a series of patients with adnexal masses in pregnancy, found incidentally during Cesarean section (CS), as well as the histopathological characteristics of the masses extirpated.

We retrospectively reviewed medical records of patients with previously unrecognized adnexal masses removed at CS in the period of 11 years, from 2000 to 2010 in our Hospital. The number of total live births was 32 603 and 7 060 of them were by CS (21.65%). There were 49 cases of incidental adnexal masses (49/7060, 0.69%), out of which 13 (26.5%) were 5 cm or greater in size. All of the masses were removed at CS. The pathologic diagnosis of the ovarian masses was as follows: simple serous cyst 27 (55.1%), cystadenoma mucinosum 6 (12.2%), teratoma adultum 5 (10.2%), fibroma 2 (4.08%), corpus luteum 2 (4.08%), endometrioma 2 (4.08%), cystadenofibroma serosum 1 (2.04%), cystadenoma serosum 1 (2.04%), luteoma 1 (2.04%), teratoma immaturum 1 (2.04%), dermoid cyst 1 (2.04%). Extirpation procedure during CS did not alter the morbidity of the operation, it enabled exclusion of malignancy and avoided possible surgical procedures in the future for the patient, although there are controversial data in the literature about performing it during CS. Our conclusion is that incidental masses detected at the time of CS should be extirpated in order to exclude malignancy and to avoid any additional surgical procedure following caesarean section because the extirpation itself does not change the outcome of the operation.

KEYWORDS: *adnexal mass, caesarean section, pregnancy*

INTRAOOPERATIVNI NALAZI ADNEKSALNIH TUMORA PRILIKOM CARSKOM REZA U RAZDOBLJU OD 11 GODINA

Sažetak

Slučajan nalaz adneksalnih tumora tijekom trudnoće je rijetkost. Učestalost je manja od 5%, a većina ih spontano regresira kako trudnoća napreduje. Cilj našeg istraživanja bio je prikazati i analizirati pacijentice s adneksalnim tumorima u trudnoći, otkrivenim slučajno tijekom carskog reza, kao i histopatološke karakteristike uklonjenih tumora te rezultate usporediti s rezultatima sličnih istraživanja u literaturi. Pregledali smo medicinsku dokumentaciju pacijentica čija je trudnoća dovršena carskim rezom, a koje su imale prije trudnoće neprepoznate adneksalne tumore, koji su potom uklonjeni tijekom carskog reza. Ovo retrospektivno istraživanje obuhvatilo je razdoblje od 11 godina, od 2000.-2010. u Kliničkoj bolnici „Sv. Duh“ u Zagrebu. Broj poroda u navedenom razdoblju bio je 32 603, a 7 060 ih je dovršeno carskim rezom (21.65%). Pronađeno je 49 slučajeva adneksalnih tumora (49/7060, 0.69%), od kojih su 13 (26.5%) bili jednaki ili veći od 5 cm. Svi tumori pronađeni tijekom carskog reza bili su i uklonjeni. Patohistološke dijagnoze tumorskih masa prema redu učestalosti bile su: jednostavna serozna cista 27 (55.1%), mucinozni cistadenom 6 (12.2%), adultni teratom 5 (10.2%), fibrom 2 (4.08%),

corpus luteum 2 (4.08%), endometriom 2 (4.08%), serozni cistadenofibrom 1 (2.04%), serozni cistadenom 1 (2.04%), luteom 1 (2.04%), nezreli teratom 1 (2.04%) i dermoid 1 (2.04%). Postupak ekstirpacije adneksalnog tumora tijekom carskog reza nije utjecao na ishod zahvata, a omogućio je isključivanje maligniteta tumorske tvorbe te je time izbjegnuto mogući budući kirurški zahvat za pacijenticu iako su podaci o izvođenju takvog zahvata tijekom carskog reza u literaturi kontroverzni. Naš zaključak je da adneksalni tumori uočeni tijekom carskog reza trebaju biti i uklonjeni kako bi se isključio malignitet i izbjegao budući kirurški zahvat.

KLJUČNE RIJEČI: *adneksalni tumori, carski rez, trudnoća.*

INTRODUCTION

In hospital-based series, 0.2-2% of pregnancies are complicated by adnexal mass, and approximately 1-6% of the masses are malignant (1-3). The use of prenatal ultrasound for evaluation of the fetus has resulted in increased detection of asymptomatic adnexal masses in the first one-half of pregnancy, but there is still a certain number of adnexal masses that are diagnosed incidentally during Cesarean section (CS). Although the majority of these masses are benign, the possibility of cancer must be considered. In a retrospective series of 8 330 caesarean deliveries, 68 incidental adnexal masses greater than 5 cm were identified; and only one of them was malignant (4).

Clinical presentation of an adnexal mass could include nonspecific symptoms such as abdominal or back pain, constipation, abdominal swelling and urinary symptoms or palpable mass during antenatal physical examination, but because of pregnancy, their presence is usually unlikely to trigger a diagnostic evaluation. Acute abdominal pain due to torsion of the adnexa because of the adnexal mass, usually between 6 and 8 cm in diameter, occurs in about 5 percent of pregnant women with adnexal mass.

The most common adnexal masses detected in pregnant women are benign. Most adnexal masses identified in pregnant women are benign simple cysts less than 5 cm in diameter. Most of these are functional ovarian cysts, either follicular or corpus luteum cysts, which occur as part of the normal physiological function of the ovary. Approximately 70 percent of all adnexal cystic masses detected in the first trimester spontaneously resolve by the early end of the second trimester, consistent with the natural history of functional cysts (5). Some studies show that majority of persistent adnexal masses of 5 cm or greater in diameter are mature teratomas (2). Except from a func-

tional cyst, benign mass can pathohistologically be serous or mucinous cystadenoma, hydrosalphinx, hemorrhagic corpus luteum, mature teratoma, theca lutein cyst or luteoma-uncommon solid benign lesion specific to pregnancy which can simulate a neoplasm on clinical, gross, or microscopic examination.

When it comes to malignant ovarian tumors, epithelial ovarian tumors comprise about one-half of all ovarian malignancies in pregnant women, germ cell ovarian malignancies make up about one-third, and stromal tumors and a variety of other tumor types (e.g. sarcomas, metastatic tumors) account for the remainder. About three-fourths of the ovarian germ cell tumors occurring in pregnancy are dysgerminomas; endodermal sinus tumors, immature teratomas and mixed germ cell tumors comprise the remainder. One half of all pregnancy-associated stromal tumors are granulosa cell tumors, one-third are Sertoli-Leydig cell tumors, and the rest are unclassified stromal tumors.

METHODS

Aiming to compare results of incidentally diagnosed adnexal masses during CS obtained in the Clinical Hospital "Sveti Duh", Zagreb, Croatia with the literature, we retrospectively analyzed all pathohistological findings of incidentally diagnosed masses at CS in the period of 2000- 2010.

RESULTS

The number of total live births in the 11-year period was 32 603, and 7 060 of them were delivered by CS (21.65%). There were 49 cases of incidental adnexal masses (49/7060, 0.69%), out of which 13 (26.5%) were 5 cm or greater in size. All of the masses were removed at CS. The pathologic

diagnosis of the ovarian masses were as follows: simple serous cyst 27 (55.1%), cystadenoma mucinosum 6 (12.2%), teratoma adultum 5 (10.2%), fibroma 2 (4.08%), corpus luteum 2 (4.08%), endometrioma 2 (4.08%), cystadenofibroma serosum 1 (2.04%), cystadenoma serosum 1 (2.04%), luteoma 1 (2.04%), teratoma immaturum 1 (2.04%), dermoid cyst 1 (2.04%). Extirpation procedure during Cesarean section did not alter the outcome of the operation.

DISCUSSION

A similar study retrospectively evaluating incidental adnexal masses at CS on 39 115 cases from 2002 to 2008, showed the incidence of adnexal masses of 1/329 (6). The common histopathological diagnoses were mature cystic teratoma (32%) and functional cysts (26%). The mean cyst size was 6.4 cm and two of the masses were malignant. These results are comparable to ours, as well as those of a Mexican study which evaluated the incidence of adnexal masses during pregnancy, diagnosed either by ultrasound or at the time of CS (7). In the mentioned study, the incidence of adnexal masses was 0.22%, and although diagnosis was made by ultrasound in 95% of the cases, most of cystectomies was performed during Cesarean section (55%). The most frequent histological diagnoses were serous cyst (40%), mature teratoma (28%), mucinous (6%) and malignancy (4%). The study performed in China in the period 1991-2008, resulted with the incidence of ovarian malignancies diagnosed during CS of 0.21 in 1 000 Cesarean sections (8).

CONCLUSION

Ultrasound in the first trimester indicated to diagnose possible ovarian masses in pregnancy

reveals most of the present masses. Nevertheless, there is still a certain number of adnexal masses that are diagnosed incidentally during CS and although the majority of these masses are benign, the possibility of cancer must be considered. Extirpation during CS does not change the outcome of the operation, helps us determine the nature of the tumors that persisted throughout the pregnancy, and in most cases (benign tumors) lowers the need for further surgical procedures.

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