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Case Report

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Degeneration of a pedunculated leiomyoma mimicking ovarian neoplasm. A case report and review of the literature

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Abstract

Degeneration of subserous uterine leiomyomas can lead to inaccurate diagnosis of an ovarian mass, mainly in cases with a stalk. We report a case of a pedunculated degenerated leiomyoma in a 31 - year - old woman mimicking ovarian neoplasm according to the preoperative imaging studies, including ultrasound and computing tomography. Surgical removal of the mass and histopathologic examination revealed a pedunculated leiomyoma with myxoid degeneration and coexisting lesions of endometriosis. Differential diagnosis between large, degenerated, atypical tumor - like fibroids and ovarian neoplasms may be a diagnostic challenge.

Keywords: pedunculated uterine leiomyoma; degeneration; ovarian tumor

Leiomyomas are the commonest uterine tumors, occurring in around 20 - 30% of women in the reproductive age. Pedunculated subserous leiomyomas are found in less than 20%. Cystic degeneration of fibroids is observed in about 4%, though the most common degeneration is hyaline change (focal or generalized hyalinization) which occurs in more than 60% of fibroids and is usually extensive[1]. However, some cases during the preoperative diagnostic process, may be presented with unusual ultrasound (U/S), computed tomography (CT) scanning and magnetic resonance imaging (MRI) depictions[2,3]. The confusion is complicated in case of a degenerated pedunculated fibroid, because in this case the appearance of the uterus is normal and the pedunculated mass closely resembles an adnexal tumor.

To the best of our knowledge, thirteen cases of leiomyomas with cystic degeneration have been reported[2-12], in which a diagnostic problem was created. Seven of them[2-7] were pedunculated.

We present a case of a large pedunculated leiomyoma with cystic degeneration adherent to the pelvic peritoneum due to endometriosis, which was preoperatively presented as a fixed ovarian mass, accompanied by a thorough literature review.

Case Report

A 31 - year - old woman (para 0, gravida 0) was ad-

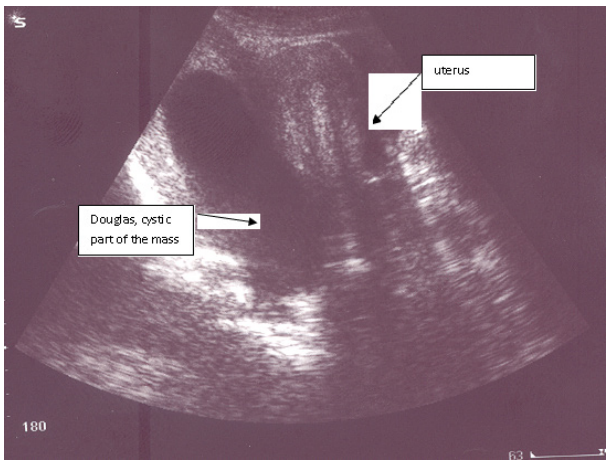

Figure 1. Abdominal sonography

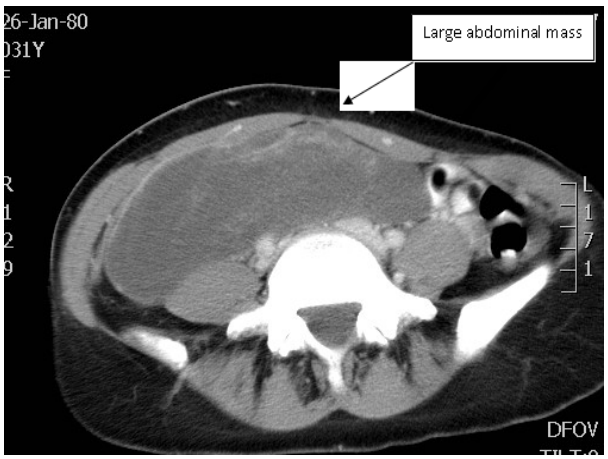

Figure 2. Abdominal CT scan

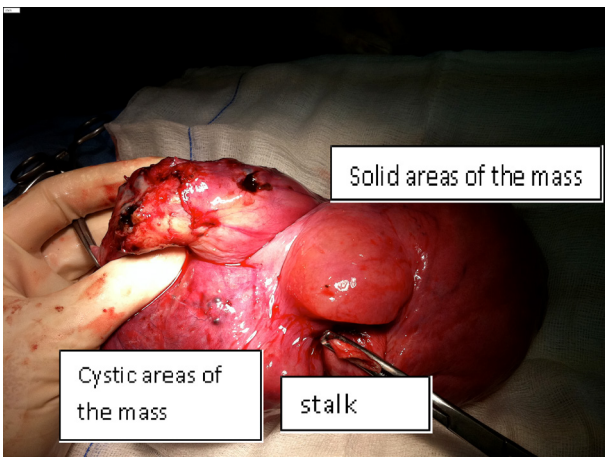

Figure 3. Surgical specimen

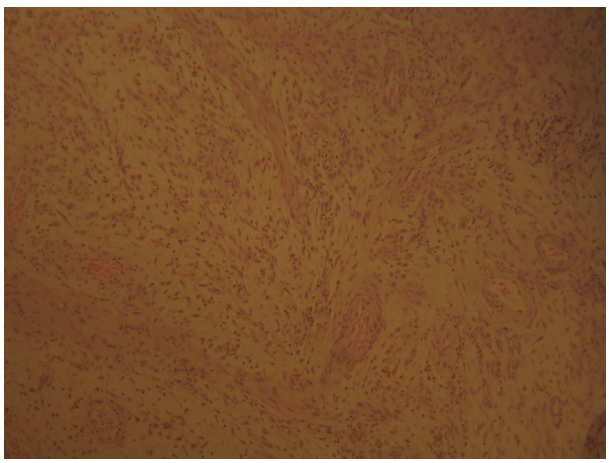

Figure 4. Histologic examination: smooth muscle cells (hematoxylin and eosin, x10)

mitted to our department, with a complaint of abdominal distention gradually deteriorating in the last two months. The patient's medical and family history was unremarkable. On physical examination a painless, elastic abdominal mass was palpated up to the level of umbilicus in the midline and laterally extended to the right side. Bimanual gynecological examination was not possible because the patient was virgo. A rectal examination was performed and a huge palpable mass was found firmly adherent to the right pelvic peritoneum. Abdominal sonography revealed a large complex mass measuring about 15cm suggestive of a suspicious ovarian neoplasm and a small quantity of ascitic fluid was also noted (Figure 1). CT scan of the abdomen showed large masses arising from the ovaries. The larger one with enhancing septations seemed to arise from the right side. Differential diagnosis included mucous cystadenoma or cystadenocarcinoma (Figure 2). Serum level of CA - 125 was 117.1 U/ml, CA 19 - 9 was 59.8 U/ml and CA 15 - 3 was 33.7 U/ml (normal ranges: <35, <37 and <31.3U/ml, respectively) .

During an exploratory laparotomy, a longitudinal whitish mass about 18cm was arising from the uterine fundus and was connected with a stalk of about 1.5cm. The upper pole was extended up to the level of umbilicus, while the inferior part was fixed to the pouch of Douglas, in contact with the posterior uterine wall and rectosigmoid. The mass

was consisted of both cystic and solid areas (Figure 3). Exploration of the upper abdomen as well as the other structures of the pelvis did not show any remarkable findings except visible superficial endometriotic petechiae on the surface of the right ovary. Transection of the stalk was performed as well as adhesiolysis of the mass from the surrounding structures and mainly from the rectosigmoid and peritoneum of Douglas. The adhesions were attributed to the presence of endometriosis. A frozen section was negative for malignancy and showed degenerated uterine leiomyoma. Postoperative period was uneventful and the patient was discharged five days after operation. Permanent histologic examination revealed a whitish mass about 18cm with myxomatous degeneration and small cystic spaces with hemorrhagic content (Figure 4). The patient remains free of symptoms 18 months following the operation.

Discussion

Degeneration of leiomyomas is a common complication occurring in approximately two thirds of all surgical specimens[1]. Accurate preoperative diagnosis is difficult in some cases with cystic components[2,3]. Upon imaging methods these rare entities may be falsely interpreted as an adnexal mass. Moreover, in case of a pedunculated leiomyoma, uterus has a normal appearance. After conducting a search of the literature since 1986, eleven relevant reports[2-12] with 13 cases were found, seven of which included pedunculated leiomyomas[2-7].

The age distribution of the patients varied from 16 to 56 years old and the size of the mass varied from 10 to 40cm. Abdominal distention and fullness were the most common complain reported in the majority of cases, while other symptoms included palpable mass[7], pain[5] and menstrual disorders[8,9]. Rapid growth of the mass was reported in two cases[2], in one of which existence of ascites and pleural effusion were noted. Additionally, a pregnancy of 9 weeks of gestation was reported in one case[5]. In most cases, CT was the preferred imaging method after ultrasound, while MRI was performed in 4 cases with suspicious ultrasound findings[3,5,9]. Color Doppler and MRI seemed to be helpful diagnostic tool in differential diagnosis of complex pelvic masses[4,6]. Three out of the thirteen cases reported tumor markers[3,4,6] and the serum level of CA 125 was elevated in one of them as in our case (120U/ml)[6]. The differential preoperative diagnosis mainly included ovarian neoplasm suspicious for malignancy in most cases[2-4,6,8,9,11] or ovarian cyst[5,10,12]. Regarding to surgical findings, in one case[5] the leiomyoma was adherent to colon in the cul de sac and in another pedunculated leiomyoma there was a stalk with blood supply from ileum[3]. Moreover, histopathologic examination showed cystic degeneration of the fibroid in most of the cases, infarcts hemorrhage[6], hyaline degeneration[7] and hydropic myxomatous degeneration[8]. In two cases[10,11] an incidental finding was in situ endometrioid carcinoma of the endometrium.

It is noted that findings of endometriosis were reported exclusively in our case. A large pedunculated leiomyoma with blood supply from the uterus coexisted with lesions of endometriosis and had the solid inferior part adherent to the uterus and rectosigmoid. The imaging studies (U/S, CT) and the increase of the tumor markers led us to suspect an ovarian neoplasm.

Conclusion

Gynecologists as well as radiologists have to be careful in the differential diagnosis of these cases and a multidisciplinary approach is required for accurate preoperative diagnosis of pelvic tumors.

Conflict of interest

Professor Basil Tarlatzis has conflict of interests to declare: Unrestricted research grants, travel grants and honorarium by Merck Serono and Merck Sharp & Dohme as well as travel grants and honoraria by IBSA & Ferring.

Bili Eleni has a conflict of interest to declare: travel grants by Merck Sharp & Dohme.

The other authors did not report any potential conflicts of interest.

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