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Case Report

Solitary Fibrous Tumor of the Greater Omentum Mimicking an Ovarian Tumor: A Case Report

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Abstract

Solitary fibrous tumor (SFT) is a rare neoplasm originated from sub-mesothelial lining mesenchymal cells and the involvement of greater omentum is extremely rare. In this report, a case of SFT arising from the greater omentum mimicking an ovarian tumor is introduced. A 24-year-old woman was referred to the oncology department. She had the history of lower abdominal pain. Investigations revealed abdominal-pelvic mass. The findings of sonography and MRI reported a solid-cystic adnexal mass presumably of uterine myoma. Exploratory laparotomy detected vascular tumor originating from the greater omentum. Final diagnosis of solitary fibrous tumor (SFT) of greater omentum was confirmed. The patient presented no evidence of recurrence during serial follow-up without adjuvant treatment. The SFT arising from greater omentum should be considered by clinician as a differential diagnosis of an abdominal mass associated with a pelvic tumor.

Keywords: Solitary Fibrous Tumor; Mesenchymal Tumor; Ovarian Tumor; Greater Omentum

Introduction

Solitary fibrous tumor (SFT), is a rare mesenchymal tumor occurring more frequently in the visceral pleura. Majority of these tumors are located in thoracic cavity, but the involvement of greater omentum is extremely rare and only few cases have been reported in this field [1]. The first clinical and pathological condition of this tumor was first described by Klempere and Rabin in 1931 [2]. However, Rodriguez., et al. surveyed 20 cases of SFT mimicking gynecologic neoplasm [3]. The final diagnosis of SFT is established by histopathological examination and specific immunohistochemical study. Differential diagnosis of SFT included: hemangiopericytoma, leiomyoma, fibrosarcoma, and leiomyosarcoma [4,5]. Approximately, 78% - 88% of SFT's are benign and 12% - 22% are malignant [6]. Surgery is the choice of treatment in SFT; long-term follow-up is recommended due to significant risk of recurrence or metastasis [7]. Herein, we report a rare case of SFT of originating from greater momentum mimicking an ovarian tumor.

Case Presentation

A 24 -year-old woman was referred to the oncology department of an academic hospital, Mashhad University of Medical Sciences in 2016. She complained of lower abdominal pain without nausea or vomiting. Pelvic examination showed a mobile mass, soft, consistent in left lower quadrant of pelvis. Abdominal ultrasound revealed a 43 x 71 mm solid cystic hypervascularized mass in the left upper side of pelvis with possible diagnosis of pelvic myoma. In addition, MRI showed a solid cystic mass of 70 × 50 mm was in favor of an ovarian tumor or sub serous pedunculated uterine myoma (Figure 1).

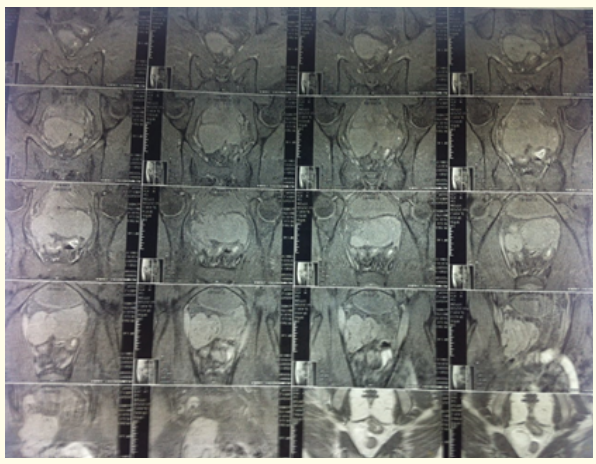

Figure 1: MRI T1 weight images showing a hyper vascular well defined hypo echoic solid mass –isosignal intensity with contrast enhancement, ovarian malignant mass was suspected.

Tumor marker levels (CA-125, AFP, LDH, β HCG, and CEA) were within the normal range No preoperative pathology specimen was sent. Exploratory laparotomy was performed and a grey-white color tumor (65 × 54 mm in size) originating from greater momentum was discovered. However, both ovaries and tubes and other pelvic organs were normal. Also all uterine ligaments, liver, intestine, pelvic and para aortic lymph nodes status, were normal. At the beginning an excisional biopsy was sent for frozen pathology analysis. It came back positive for small round cell tumor of great-

er momentum. So, a complete radical excision of the omental mass was performed with macroscopic complete resection. Therefore, no other procedure was performed, however the patient experienced no postoperative complication (Figure 2).

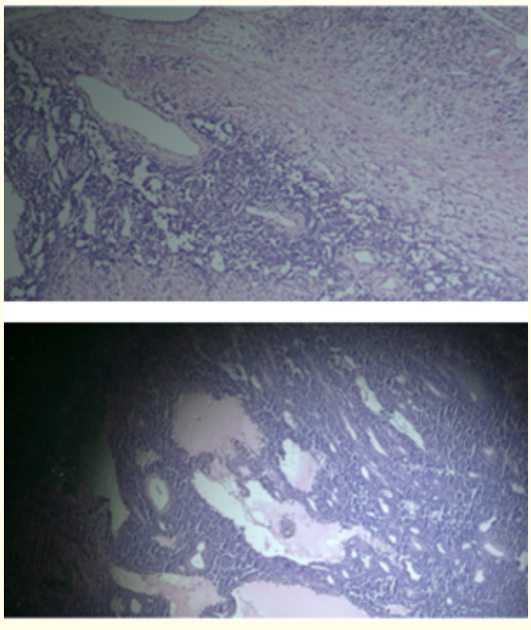

Figure 2: Hematoxylin and eosin coloration at which magnitude 40 HPF showing spindle-shaped cells with atypical nuclei and fibrotic stromal background as a small round cells tumor.

The oncology pathologist reviewed the permanent specimen. Histological examination demonstrated a nodular and solid cystic pattern tumor, spindle-shaped cells with atypical nuclei which was composed of exhibiting and little cytoplasmic cells. The tumor was rich in partly branching vessels in fibrotic stromal background. Immunohistochemically staining showed that the tumor was positive for CD34 and CD-99, but negative for cytokeratin, LCA (leukocyte common antigen), CD117, Synaptophysine and Calretinine and Inhibin. According to these data, the final diagnosis confirmed the solitary fibrous tumor. Subsequently, the multidisciplinary oncology team decided for close follow-up of patient without any adjuvant treatment. In the first year after the diagnosis in serial monitoring, she is free of disease and there we had no evidence of recurrence the disease.

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Discussion

Primary tumor of the greater omentum is very rare; and SFT with the involvement of the greater omentum is even more uncommon. The present case was the first patient of SFT in our center which was treated via surgery. The majority of the cases are asymptomatic; however some patients may be experience abdominal pain and mass [8]. Most patients are at age of 50 to 70 years and the present case was younger than other cases which are reported in literature review [9]. The diagnosis of SFT is difficult; however, Imaging modality, transvaginal or transabdominal sonography, Doppler ultrasonography, Ct-scan, MRI and PET-scan in most cases cannot distinguish SFT from other mesenchymal tumors [10]. Leiomyoma and leiomyosarcoma are more common gynecological tumors which are very similar to SFT in sonography; like as our patient. When a well-circumscribed and pedunculated mass is observed in sonography, the possibility of sub-serous uterine myoma should be considered.

If appearance of vascularized solid mass was seen in color Doppler, it is useful in diagnosis of SFT. Also it is not specific sign [10]. Mesothelioma as the other lesion resemblance to SFT must be included in the diagnosis. The involvement of lungs and Pleural effusion in chest x-ray and CT-scan may also be useful in this diagnosis [11]. Osteopontin level in blood isn't diagnostic; usually we will take the diagnosis after endoscopic biopsy but in some cases open surgical biopsy will determine the diagnosis [12]. The definitive diagnosis of SFT is established by surgical resection and type of surgery is controversial, but usually tumor resection with tumor-free surgical margins is suggested [13]. Moreover, there are some reports of complete omentectomy due to local recurrence. Unlike ovarian cancer surgical staging surgery and optimal cytoreductive surgery are unnecessary. Recently, there is more emphasis on Immunohistochemical studies for final pathological diagnosis of this tumor. Its proven positive panel is CD34, CD99 and bcl-2 and occasional SM, in addition negative S-100, desmin and cytokeratin's [14]. SFT was confirmed in our patient according to positivity for CD34 and CD-99, and negative results for cytokeratin, LCA, Synaptophysine Calretinine and Inhibin in specimen. Prolonged accurate follow-up of patients is recommended due to the possibility of tumor recurrence. There are some reports of late recurrence and metastasis 10-23 years after the diagnosis. In the study in 2010, recurrence was reported several years after first surgery and disease free survival rate was 73% for 10 years [15]. In the study of Demicco., et al. the follow–up of 110 SFT cases in all intra and extra thoracic sites showed high risk of metastasis and death in the patients with age ≥ 55 years, tumor size ≥ 15 cm, and mitotic figures ≥ 4/10 HPF [15]. However, it was reported that a 74-year-old woman with aggressive SFT died 4 months after primary surgery. Therefore, close follow-up of all SFT patients has been recommended [16]. Based on limited cases reported In the literature, there is no agreement for chemo/radiotherapy. Now, our patient has no evidence of disease after one year regular follow up.

Conclusion

The SFT arising from greater omentum should be considered by clinician as a differential diagnosis of an abdominal mass associated with a pelvic tumor. In addition, prolonged close follow up, especially in young women at reproductive age seems to be necessary.

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