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Giant Borderline Serous Ovarian Tumor Confusing Radiological Features

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Abstract

Introduction: Serous borderline ovarian tumours are intermediate group of neoplasms which have both benign and malign features and account for 10%-20% of ovarian neoplasms.

Case: A 22-year-old nulligravid woman was admitted to our clinic complained with menstrual irregularity, abdominal pain and bloating abdomen. Computed tomography and MRI were performed. There was a large multilocular complex cystic mass almost filling the whole pelvis. The postoperative pathological diagnosis was reported as serous borderline ovarian tumor.

Discussion: Although ultrasonography (US) is the first-line diagnostic method in the radiological evaluation of adnexal masses, magnetic resonance imaging (MRI) is mainly used in the evaluation due to high soft tissue discrimination. Computed tomography may be helpful but usually not diagnostic.

Keywords: ***Borderline serous ovarian tumor; Radiology; CT; MRI***

1. Introduction

Borderline ovarian tumors (BOT) behave as intermediate lesions between benign cystadenomas and invasive carcinomas, making them separate histologic and clinical entity. They represent 10% to 20% of all epithelial tumors of the ovary. They are characterized by an atypical epithelial cell proliferation without stromal invasion. These tumors are often diagnosed at an early stage while still confined to one or both ovaries, considered as stage I BOT according to the International Federation of Gynecology and Obstetrics (FIGO) classification. BOT of all stages combined have favorable 5-year and 10-year survival rates of 95% and 90%, respectively. Serous borderline tumors often present as complex adnexal masses. Serous borderline tumors more commonly have papillary projections [1,2].

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2. Case

A 22-year-old nulligravid woman was admitted to our clinic complained with menstrual irregularity, abdominal pain and bloating abdomen. A large pelvi-abdominal multilocular complex cystic lesion was observed on computed tomography images (FIG. 1). MRI sections seen eliciting low T1 and bright T2/SPAIR signal with thick internal septations and multiple papillary projections eliciting intermediate signal in T1 and T2 images with restricted diffusion in the DWI (FIG. 2 & 3). They show heterogeneous enhancement in the post-contrast series. The described lesion filled the pelvic area and its borders from both ovaries could not be clearly distinguished. The postoperative pathological diagnosis was reported as serous borderline ovarian tumor.

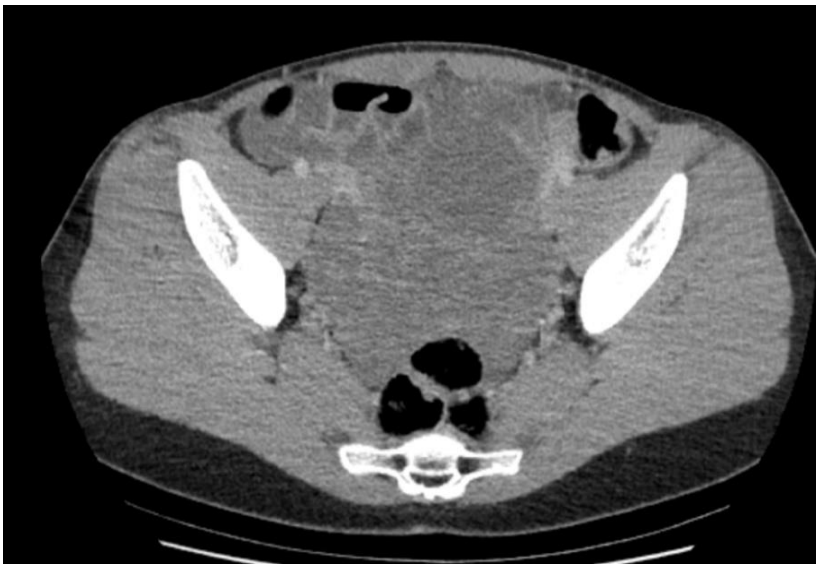

FIG. 1. **Contrast enhanced CT findings of serous borderline ovarian tumor (large pelvi-abdominal multilocular complex cystic lesion).**

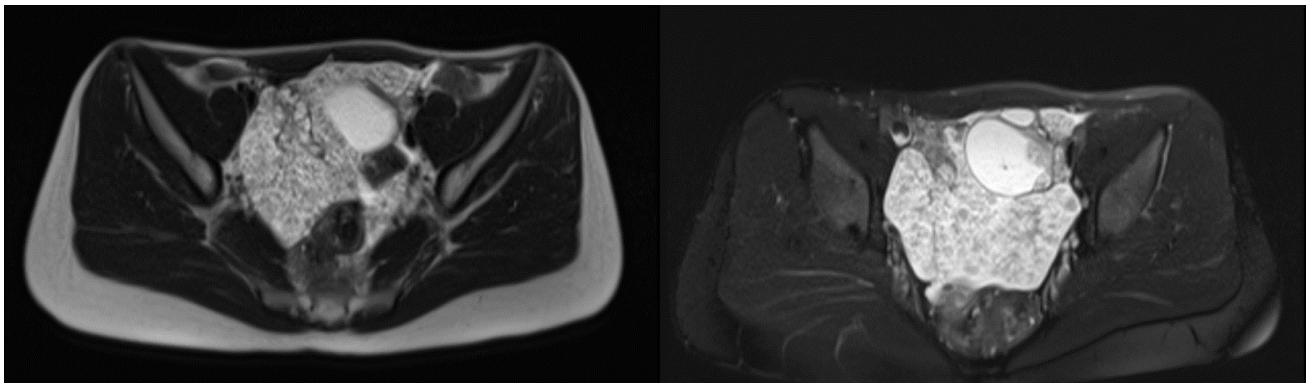

FIG. 2. **Axial T2-weighted MR image (left) and axial fat suppressed T2-weighted MR image (right) shows large pelvi-abdominal multilocular complex cystic lesion.**

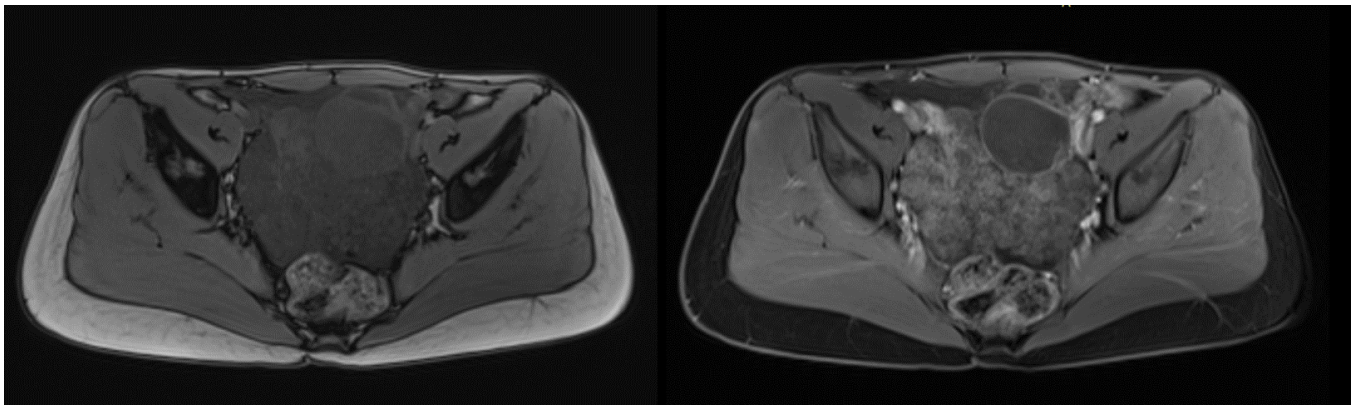

FIG. 3. **Axial T1-weighted MR image (left) and axial contrast enhanced T1-weighted MR image (right) shows large pelvi-abdominal multilocular complex cystic lesion.**

3. Discussion

This case shows that borderline tumors often present as complex adnexal masses; none was a purely simple cystic lesion. Thus, although borderline ovarian tumors may appear to be benign masses clinically, their radiologic features require differentiation from early invasive disease. Borderline tumors are usually multiloculated with significant solid elements. The architecture of the solid component includes smooth round nodules, plaque-like thickening, and papilliform projections, with no tendency for any specific feature to predominate in malignancy. However, the thickness of the septations and the size of the nodules are greater in invasive tumors than in borderline tumors. Radiologic features of borderline tumors are similar to those of stage I ovarian cancers. The solid components are smaller and the septations are thinner in the borderline tumors, but although these features may be helpful in predicting likelihood of invasive tumors, neither feature allows confident differentiation of borderline from stage I disease [3-5].

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