

Case Report

Bilateral Giant Theca-Lutein Cysts in One Pregnant Woman at MRI: Mimicking The Cystadenoma of Ovary

He Zhang*

Department of Radiology, Obstetrics and Gynecology Hospital, Fudan University, P.R. China.

*Corresponding author: He Zhang, Department of Radiology, Obstetrics and Gynecology Hospital, Fudan University, No. 419 Fang xie Road, Shanghai, 200011, P.R. China, Tel: 0086-21-63770161; Fax: 0086-21-63770768; E-Mail: zhanghe1977@gmail.com

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Case Report

Case 1

A 36-year-old woman in 18 weeks pregnancy with chief complaints of the lower abdominal distension and a sense of chest tightness was administrated by out-patient service of department of obstetrics in our institution. No vaginal drainage and bleeding were observed. She had one time of gravidity and born the healthy baby with natural labor six years ago. No other diseases history was recorded. The CA125 level was 525.20 U/mL, CA199 level was 22.11U/mL and CEA level was 1.31ng/mL. On ultrasound, the reports revealed the bilateral cystic masses in the adnexal region. For the further evaluation of the etiology of suspected masses, the clinicians recommended MRI examinations with the permission of the patient. MR imaging was performed using a 1.5-T MR system (Magnetom Avanto, Siemens, Erlangen, Germany) with a phased-array coil. On MRI, the bilateral giant, lobular cystic masses occupied the whole abdominal cavity with homogeneous hypointensity signal on T₁-weighted imaging (T₁WI) and hyperintensity signal on T₂-weighted imaging (T₂WI) (Figure 1). For the safe of fetal, no contrast material was used in this case. The patient performed the laparoscopic surgery three days after MRI performance. Cyst aspiration was undergone under the laparoscopic surveillance. The final pathological diagnosis was the bilateral ovarian luteinized cysts. The informed content from the patient with permission of usage of related MRI images was obtained during preparation of this manuscript.

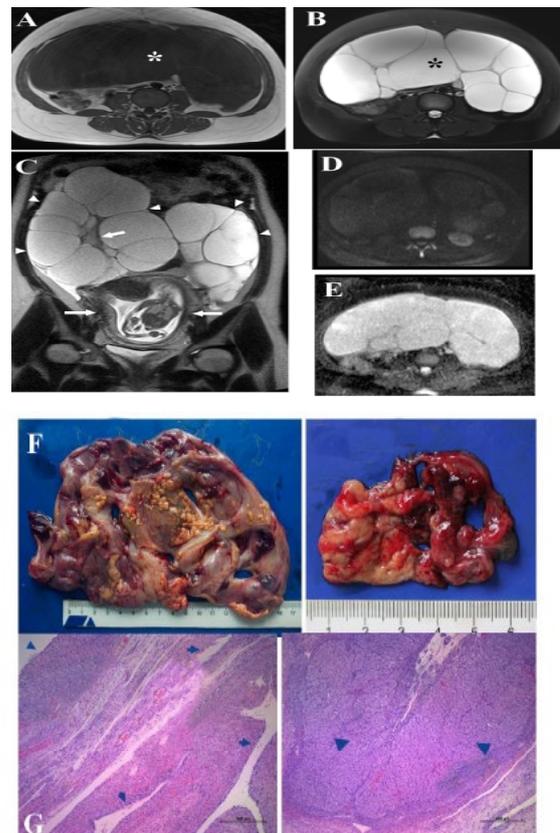


Figure 1. A 36-year-old woman in second trimester with bilateral ovarian luteinized cysts.

On axial T₁WI (A) and T₂WI (B), the giant cystic masses(*) displayed as the homogeneous low signal on T₁WI and high signal on T₂WI; on coronal T₂WI (C), the giant cystic masses (arrowhead) were more clearly outlined resembling the inflatable ovarian follicles. The residual ovarian stroma centrally located in the mass. Note, the pregnant uterus (short arrow) was revealed in the centre of pelvic cavity. On diffusion weighted imaging (DWI) and apparent diffusion coefficient (ADC) map (E), the mass appeared as the homogenous intermediate signal on DWI similar to muscle signal and high signal on ADC map. The yellow granular components on the inner aspect of resected ovary revealed the luteinized cysts on the gross sample (F). HE stains (G) indicated the lutein cysts (arrowhead) among the ovarian follicles (arrow).

Discussion

Theca-lutein cyst (Hyperreactio luteinalis) is a rare benign physiological ovarian enlargement with multiple theca lutein cysts caused by increased human chorionic gonadotropin serum levels. It occurs during the luteal phase of the menstrual cycle or during early pregnancy [1,2]. Such condition is also associated with ovarian hyperstimulation syndrome, an iatrogenic complication following drug therapy (ovulation treatment) for infertility [1,3]. Theca-lutein cyst usually accompany with the gestational trophoblastic disease, multiple pregnancy, ovulation treatment and oral estrogen [3]. Bilateral giant theca-lutein cysts secondary to normal pregnancy as in this reported case is particularly uncommon. Here, we firstly reported MRI and DWI findings of the theca-lutein cyst in pregnant woman in the second trimester. The theca-lutein cyst manifested as the homogeneous hypointensity signal on T₁WI and hyperintensity signal on T₂WI. On DWI, it appeared as the homogeneous hypointensity signal compared with the pelvis muscle signal. On MRI, the accumulation of expanded follicles in each of ovary made it as the multilocular cystic tumors. However, the residual ovarian stroma (solid component) occupied in the centre of lesion may rend them to be differentiated from ovarian cystadenoma. Although accurate diagnosis could be definitely made in most cases with the help of clinical signs and history, however, some theca-lutein cysts may mimic the mucinous borderline tumour of ovary [4], which lead to the unnecessary oophorectomies. From our case, we think that MRI findings may aid clinicians to do a correct diagnosis before open surgery. The most significant character of theca-lutein cysts lie in the symmetrical foundation and lack of the solid components as in ovarian cancer [5], which appears as the high signal on tumor sensitive imaging-DWI images [6].

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