

isuog2025.2eb0aa2.

New ideas for the diagnosis of adnexal lesions by quantitative analysis of gynecological venous contrast.

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Conclusion

Two-dimensional ultrasonography and contrast-enhanced ultrasound should be performed by the same physician, with the patient's clinical presentation to clarify the source of the lesion. Transabdominal ultrasound should be chosen for contrast-enhanced ultrasound of adnexal masses larger than 5 cm. The sources of blood supply to the uterus and its appendages are complex, and we should first determine by color Doppler that the extent of lesions selected at the time of contrast is the same as that of the myometrium, which is a prerequisite for ensuring reliable contrast results. At the same time, areas with a relatively rich blood supply and a lower resistance index were selected at the lesion site as the observation objects. There are relevant studies showing that CEUS has significant clinical value in the qualitative diagnosis of pelvic malignant lesions. Because blood perfusion is strongly influenced by individual differences in heart rate and vascularity, PId (difference of PI in the adnexal mass with that in the myometrium) and ASd (difference of AS in the adnexal mass with that in the myometrium) parameters were set to reduce the error brought about by these individual differences. According to the generated ROC curves, when the critical value of PId was 4.47, the sensitivity and specificity of PId were 90.9% and 91.7%, respectively. Furthermore, when the ASd cutoff was 0.097, the sensitivity and specificity of ASd were 86.4% and 72.5%, respectively. Both PId and ASd had high sensitivity, specificity, positive predictive value, negative predictive value, and accuracy.

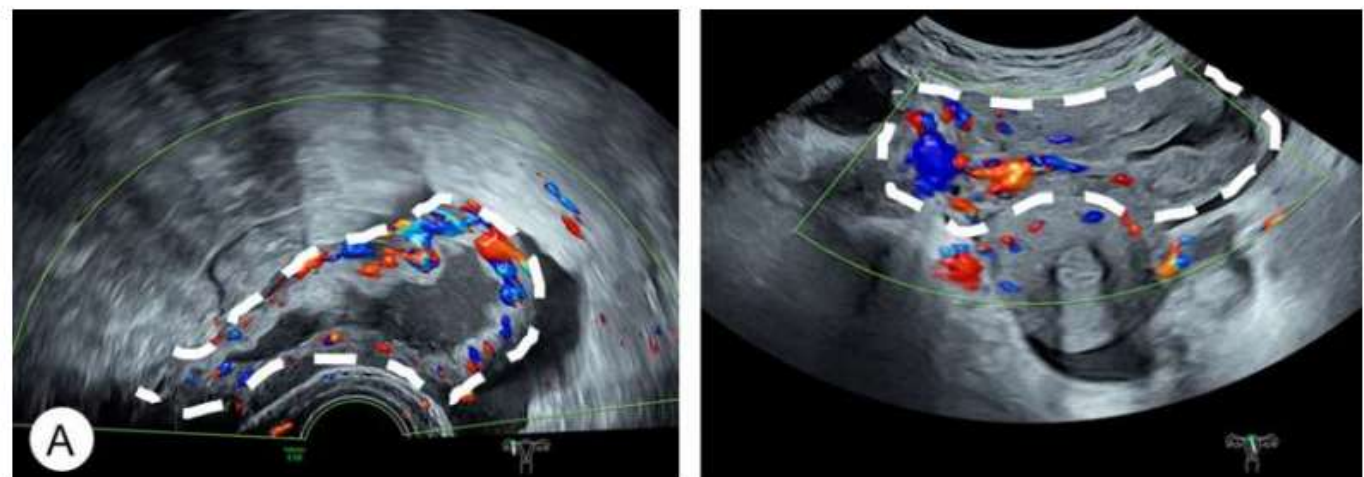
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Quantitative analysis of venous contrast-enhanced ultrasound in misdiagnosis of spontaneous rupture of giant mucinous cystadenocarcinoma of the ovary.

Zeqi CHEN, Ying Cheng, Min Zhu, Xiao-Yue Zhao, Li Xu, Jin-Qin Zhan, Ling-Yu Shen, Jia-Min Zhang

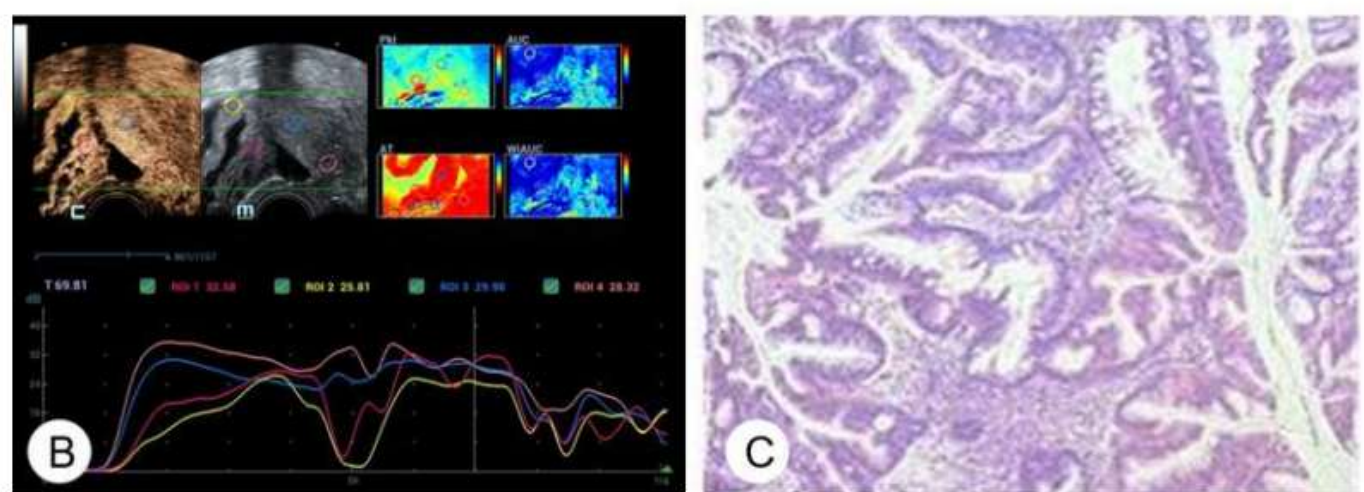
Case information

Patient, female, 44 years old, complained: "Sudden lower abdominal pain without obvious cause for more than 1 day". TVS showed a 10.0×7.8×3.8cm mixed cystic-solid mass in the right adnexal area with an irregular shape and a cyst wall thickness of about 2cm; CDFI showed abundant blood flow signals on the wall (Fig. A), and PW showed arterial spectrum, PSV=25cm/s, RI=0.43; and moderate amount of ascites. Ultrasound suggests: With possible rupture of borderline ovarian tumor. Quantitative analysis of venous contrast-enhanced ultrasound suggests: Ovarian cyst rupture and corpus luteum rupture to be differentiated (Fig. B). Pathological findings show: borderline mucinous cystadenoma with partial canceration (Fig. C)



Conclusion

Mucinous ovarian cancer (MOC) combined with spontaneous rupture is extremely rare. The reasons for misdiagnosis in this quantitative analysis of contrast-enhanced ultrasound are as follows: 1. MOC with spontaneous rupture is extremely rare; 2. MOC is heterogeneous, and three components: benign, borderline, and malignant can exist in the same tumor. 3. The patient's first ultrasound examination and contrast-enhanced ultrasound were not performed by the same doctor, the sampling points were different, and the time difference of 6 hours caused the rupture of the cyst to continue to decrease in tension and the cyst wall to shrink, which strongly affected the blood perfusion of the cyst wall.



isuog2025.2e70aa2.

Quantitative analysis of contrast-enhanced ultrasound in the diagnosis of stage IIIC fallopian tube carcinoma with negative vaginal discharge.

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Case information

The patient, female, 63 years old, was 12 years menopausal, had no abnormal vaginal bleeding, and had paroxysmal lower abdominal pain for more than 3 months. TVS showed a 6.0×2.4cm solid mass in the right adnexal area with an irregular shape; CDFI showed abundant blood supply (Fig. 1A), with PW elicited arterial spectrum, PSV=27cm/s, RI=0.52; and uneven thickening of the pelvic wall (Fig. 1C), with the thickest part being about 1.3cm, and CDFI showed abundant blood supply. Moderate amounts of ascites. Combined with quantitative analysis by contrast-enhanced ultrasound, it is suggested that fallopian tube Ca is possible (Fig. 1B). Tumor lesions were considered on MRI (Fig. 2A, B). The pathological examination results show: high-grade serous carcinoma of the fallopian tube (Fig. 2C).

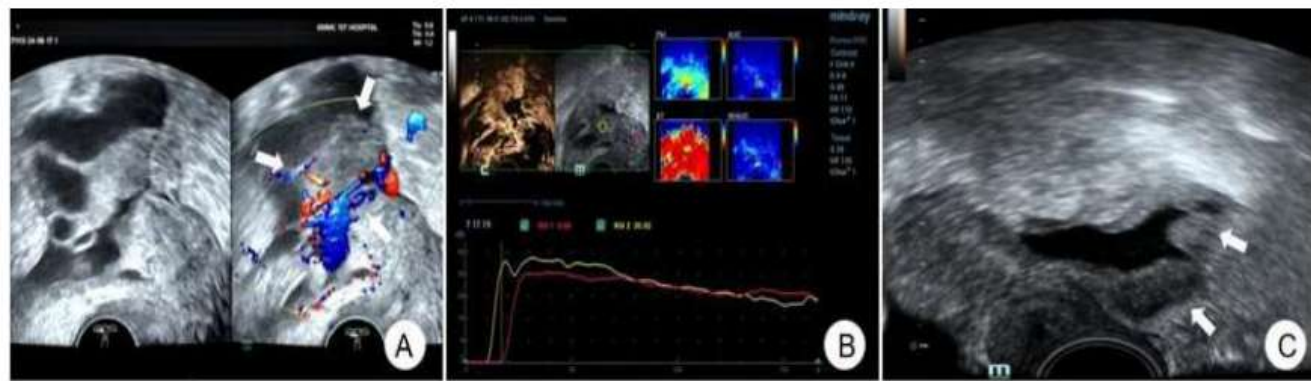


figure 1¹

Conclusion

Rare PFTC, whose diagnosis by quantitative analysis of CEUS was first reported. In this case, the characteristic "Latzko triad" of fallopian tube cancer is lacking, and the ultrasound contrast shows early enhancement, high enhancement, and early regression. Combined with the patient's abdominal pain symptoms, it is easy to be confused with acute inflammatory lesions. We selected areas with a relatively rich blood supply and a low resistance index at the lesion site as the targets for observation. To reduce the strong influence of blood perfusion on individual differences in heart rate and vascularity, we compared the differences in the two focus areas (PId and ASd) with the cutoff values, which were 5.19 and 0.27, respectively, significantly higher than the cutoff values of 4.47 and 0.097. The final diagnosis was fallopian tube cancer.

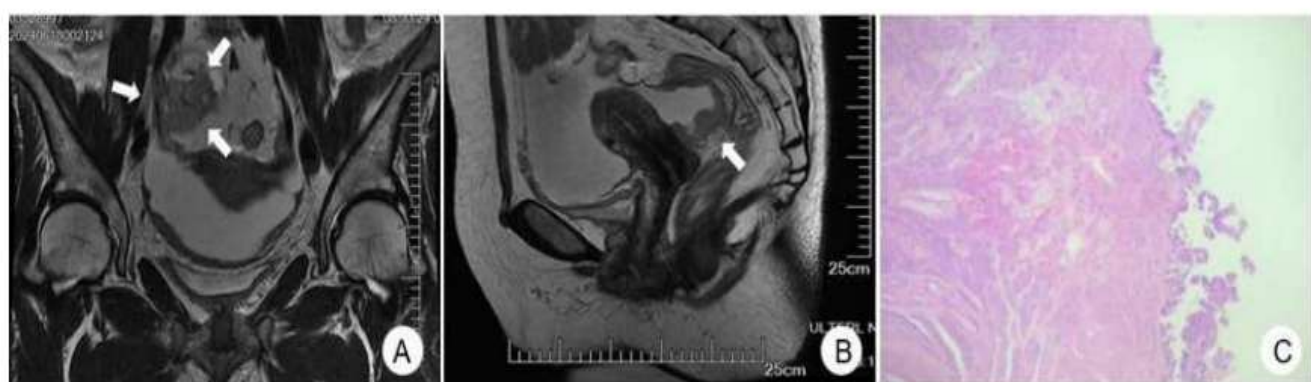


figure 2¹