

RAPID ULTRASOUND DIAGNOSIS OF GYNECOLOGICAL DISEASES

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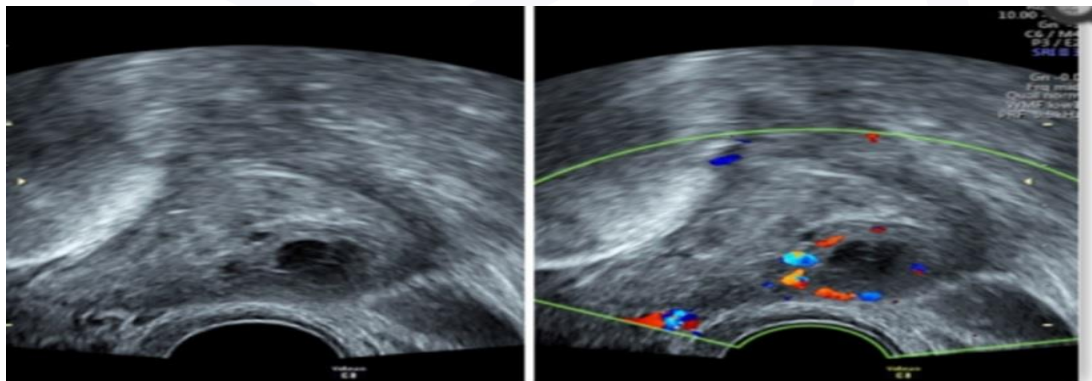
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ANNOTATION

This study covers in detail urgent conditions in gynecology include ovarian apoplexy, ectopic pregnancy. It can also be determined with Ultrasonography.

Keywords: Apoplexy, pregnant, Ultrasonography, gynecology, ovarian pregnancy, Rupture, Intrauterine insemination, Ovulation induction, Early diagnosis, Case report, ultrasound method pelvic organs gynecology pregnant women.

Emergency transvaginal ultrasound examination revealed a uterus that was normal in size but without an intrauterine gestational sac, a 43 mm × 19 mm moderate echogenic mass located very close to the right ovary, and a 39 mm × 18 mm fluid dark area behind the uterus (Figure (Figure1).1). A preliminary diagnosis of suspected ovarian pregnancy rupture (or rupture of corpus luteum) and hematoperitoneum was established. An emergency laparoscopy was planned. Intraoperative examination revealed a hemorrhagic mass surrounded by a blood clot on the surface of the right ovary. The mass was resected and subjected to pathologic examination. Histological examination revealed chorionic villi attached to the ovarian tissue.



Transvaginal ultrasonography shows right ovarian ectopic pregnancy, with gestational sac.



Diagnosis of the present case was ovarian pregnancy rupture after IUI. Although IUI is a widely used method of ART, it still carries a risk of EP. Ovarian pregnancy is an extremely rare complication after IUI; it may cause pelvic bleeding or ovariectomy, and even circulatory collapse, which could be life threatening. The present case reiterates that close attention should be paid to a history of PID before IUI treatment, and patients with such a history should be closely followed up after IUI. Early measurement of serum β -HCG levels and ultrasonic examination could facilitate a timely diagnosis of ovarian pregnancy. Laparoscopic surgery could provide an exact diagnosis and enable prompt surgical intervention in these rare cases, along with preserving the ovarian tissue.

Ultrasonography, the preferred adjunct examination method and the differential diagnostic tool for gynecologic emergency, can reflect the change pattern of gynecological diseases in daytime and at night. The purpose of this study was to analyze the diseases through gynecological emergency ultrasound in daytime and at night and to evaluate the day-night difference in the accuracy of ultrasound diagnosis. Gynecologic acute abdomen, with complicated pathogenesis and condition could be life-threatening; hence, correct diagnosis at the time is the prerequisite for proper treatment. The ultrasonic examination which is noninvasive, simple, and convenient, plays an important role in the clinical diagnosis of gynecological diseases. Sometimes it is the only adjunct to the assessment of acute pelvic pain in women. It can effectively diagnose gynecological diseases caused by acute abdominal pain in women, while exclude other causes without surgical treatment.¹ Therefore, it is the preferred adjunct examination method and differential diagnostic tool for gynecologic emergency. The aims of this study are to investigate the difference of gynecological emergency ultrasound between the day and the night and to evaluate the quantity, quality, and disease constituent ratio, so as to promote doctors and clinicians to work together to reduce human error and improve the diagnostic accuracy.

Ultrasound examination method is currently one of the leading in the diagnosis of diseases of the female genital area, because it is highly informative and has no contraindications. Regular examinations by a gynecologist, as well as ultrasound of the pelvic organs, will help to recognize the problem in time if it occurs and take appropriate measures to eliminate it.



For optimum ultrasonographic visualization, certain mechanical, physical, and ultrasonographic principles must be understood. The quality of an image ultimately depends on the degree of resolution. In general, the closer the transducer tip is to the imaging target, the greater the resolution, and, therefore, the clearer the image. Every effort must be made to avoid interference with transmission of ultrasonographic energy. A thorough understanding of the longitudinal (sagittal), cross-sectional (axial), and coronal anatomy of the pelvis is necessary for optimal image interpretation. Whereas scanning planes for transabdominal scanning are classically described as sagittal, axial, and oblique, the transvaginal approach offers the additional coronal scanning plane. Accurate orientation is a necessity for the appropriate interpretation of pelvic imaging. Because much of the imaging is performed with the use of “organ-specific” planes, the practitioner must be aware of the scanning orientation to achieve an accurate interpretation of the findings noted on the image.

In addition to understanding the need for close approximation of the imaging target by the transducer, realize that the quality of the image is influenced by the frequency of the transducer, pulse repetition frequency, and image processing. For a more in-depth analysis of these imaging principles, the reader is referred to standard texts on ultrasonography. Diagnostic procedures in gynecology are useful in identifying the presence of disease, determining the progression of disease, and monitoring the response of the organs to treatment. The major diagnostic procedures include speculum examinations, sonography (ultrasound), colposcopy, cervical biopsy and endocervical curettage, loop electrosurgical excision procedures, vulvar biopsy, endometrial biopsy, hysteroscopy, and hysterosalpingography (HSG). All of these procedures can be performed in the office setting or in a radiology suite, though in certain situations they are performed in the OR if more sedation or increased monitoring is required. Diagnostic ultrasound is helpful in the assessment of many common gynecological conditions from early teens to the late postmenopause. Female pelvic anatomy and pathology are readily imaged through a distended urinary bladder. In gynecologic cancer, examination of peritoneal cavity, kidneys and liver can suggest metastatic spread, which aids tumor staging. Change the levels of elevation and enhance border visibility with Radiant. The result is a more 3D-like appearance, which aids in crucial border differentiation in anatomy such as brain and fetal heart. Utilize our Augment



feature to reduce noise and increase penetration for a robust, cleaner image even in difficult to scan situations like high BMI. “Camera Zoom Technology” type representation to enhance spatial and optical visualization for a realistic view and increased depth display. Volume imaging is taken to the next level with the ability to control what tissue type is displayed internally vs. externally. Additional transparency tuning controls allow for more details, providing diagnostic assessment and confidence. Obtain highly detailed images of the fetal brain, first trimester development, and other complex anatomy with increased axial and lateral resolution.

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