

# Clinical Effect Analysis of Ultrasound Diagnosis in Obstetrics and Gynecology Acute Abdomen

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**Abstract:** Objective: Analyze the diagnostic effect and importance of ultrasound diagnosis in current obstetrics and gynecology acute abdomen. Method: Ultrasound examination data of 30 patients with acute abdomen in obstetrics and gynecology who received treatment in our hospital from March 2020 to March 2023 were selected, and the pathological and surgical results of the patients were analyzed. Results: Patients with acute abdomen in obstetrics and gynecology underwent surgery and medical records to determine their condition, and compared the results of ultrasound examination, the probability of diagnosis was 93.33%. Conclusion: Ultrasound diagnosis of acute abdomen in obstetrics and gynecology has a clear effect and high practical value.

**Keywords:** Ultrasound Examination; Obstetrics and Gynecology; Acute Abdomen; Analysis

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## Introduction

Obstetrics and gynecology acute abdomen is the most common type of disease in clinical emergency, with main symptoms including rebound pain and compression pain in the entire abdomen. The rate of occurrence of this disease is relatively fast, and the complexity of the disease is also relatively high. During the diagnosis and treatment process, if the diagnosis is not accurate enough, it can lead to misdiagnosis of acute abdominal diseases, seriously affecting the treatment effectiveness of patients, and even threatening their life safety. Therefore, in the treatment process of acute abdomen, it is necessary to use scientific, reasonable, and advanced methods to complete disease diagnosis, which is of great significance for the overall treatment effect of the disease. In the process of treating acute abdomen, traditional diagnostic methods have a serious impact on the overall treatment effect, making it difficult to accurately determine the condition of the acute abdomen and affecting the patient's data. After using ultrasound diagnostic methods, the diagnosis of acute abdomen can be quickly and conveniently completed, and patients can complete non-invasive examinations, reducing their physical burden, and completing rapid disease diagnosis. It has high clinical value for the treatment of acute abdomen diseases.

## 1. Materials and Methods

### 1.1 General Information

Thirty patients with gynecological and obstetric acute abdomen who received treatment in our hospital from March 2022 to March 2023 were selected as the study subjects. The patient is aged between 18 and 59 years old. After clinical diagnosis, all patients have been diagnosed with acute abdomen. When the patient came to our hospital for treatment, they already had different symptoms such as nausea, vomiting, and syncope. Some patients have already experienced hemorrhagic shock, and the patient is accompanied by symptoms of fever and fever. Patients with blood loss and fever are considered serious symptoms. Before the patient undergoes surgery, they should undergo abdominal and vaginal examinations in our hospital's B-ultrasound room, and undergo various necessary examinations before the surgery. Before the surgery, the patient needs to understand various precautions and sign a consent form. This experiment has been approved by our hospital's ethics committee, and then the necessary experimental steps will be organized.

## 1.2 Method

After entering the hospital, patients need to undergo a color Doppler ultrasound examination to complete a comprehensive examination. Abdominal ultrasound requires the use of a 3.5MHz convex array probe, while vaginal ultrasound uses a 5.0-7.5MHz intracavity probe. When undergoing ultrasound examination, patients first need to have their bladder filled, which can ensure more accurate results, Abdominal ultrasound examination should start along the pubic bone of the lower abdomen and perform a transverse scan of the patient down to the position of the umbilicus. Through this operation, the internal condition of the patient's uterus can be understood. Through ultrasound, it is possible to understand and examine whether there are abnormal conditions in the patient's pelvic cavity. At the same time, accurate judgment should be made on the size of the mass and other body parts caused by acute abdomen, in order to understand the size of the mass Determine whether there are liquid dark areas inside the patient's pelvic cavity and understand the amount of fluid accumulation in the patient's pelvic cavity, including morphology, boundary, and echo. After completing the abdominal ultrasound examination, the vaginal ultrasound examination should begin, during which the patient needs to urinate and be diagnosed immediately.

During vaginal examination, the bladder lithotomy position should be detected after the bladder is empty. The probe should be placed on the position of the patient's vault and cervix to gradually complete the examination of the patient's longitudinal and transverse sections. During Ultrasonic testing, it is necessary to place a film on the probe equipment to prevent infection of the patient's body. The use of vaginal probes can conduct a comprehensive examination of the patient's body, diagnose and analyze multiple angles within the patient's pelvic cavity, understand the final results, and reasonably record various data of the patient's body. After completing the examination, follow-up should be conducted on the patient's physical condition and comprehensive data recording should be conducted to understand the patient's surgical and pathological results. The surgical data results should be compared with the ultrasound results, and the accuracy of ultrasound diagnosis should be determined based on the actual situation of the comparison.

## 1.3 Statistical Analysis

All data in this study were statistically analyzed using SPSS15.0 software to understand the distribution status of the data. The counting data was represented by (n,%), and through the use of x-test,  $P < 0.05$  was used to indicate that each data had statistical differences.

Case diagnosis	Number of cases	Ultrasound coincidence	Missed diagnosis	Misdiagnosis	Compliance raten (%)
Ectopic pregnancy	12	11	0	1	91.66
Corpus luteum rupture	5	5	0	0	100
Ovarian cyst complicated with infection	5	5	0	0	100
Acute pelvic inflammatory disease	2	2	0	0	100
Torsion of Ovarian cyst pedicle	2	1	1	0	50
Cervical adhesions	4	4	0	0	100

<b>total</b>	30	28	1	1	93.33
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## 2. Results

Among the 30 patients selected in this trial, the following conclusions were confirmed after examination: 12 cases of Ectopic pregnancy; 5 cases of corpus luteum rupture; Ovarian cyst complicated with infection in 5 cases; 2 cases of acute pelvic inflammatory disease; Torsion of Ovarian cyst pedicle in 2 cases, adhesion of cervical canal in 4 cases, misdiagnosis in 1 case; One case was missed diagnosis.

## 3. Discussion

Gynecological acute abdomen is one of the most common diseases among gynecologists in clinical work. This disease has sudden characteristics, leading to complex causes and rapid development of acute abdomen diseases. Patients in clinical practice mainly exhibit acute abdominal pain, accompanied by symptoms such as bloating. Patients may experience clinical symptoms such as vomiting, nausea, and shock, and in severe cases, bleeding and fever may occur. Acute abdomen is prone to misdiagnosis or missed diagnosis during clinical examination. If the treatment time is missed, it will ultimately have serious consequences for the patient's treatment. The main factors leading to acute abdomen include the following. Firstly, patients may develop pelvic inflammatory disease due to infection in the affected area. Second, the patient's own physical quality is relatively good. Acute abdominal pain is caused by such factors as Ectopic pregnancy, spontaneous abortion, congenital malformations of the birth and reproductive tracts, and blood stasis during menstruation. Thirdly, patients with tumors in their bodies may experience organ displacement, which can lead to related diseases during their physiological period. Dysmenorrhea, corpus luteum rupture, and other conditions can all cause acute abdominal pain. The clinical symptoms of acute abdomen are the same as some symptoms, such as ureteral calculi, acute Appendicitis and acute gastric ulcer. The use of Ultrasonic testing in the traditional diagnosis and treatment process will lead to misjudgment or missing judgment of the patient's disease, which affects the later treatment effect of the patient. Therefore, the rational use of ultrasound diagnostic methods can better complete the diagnosis and treatment of acute abdominal diseases.

With the development of society, ultrasound diagnosis technology is also constantly developing and improving. This technology can carry out various diagnosis and treatment work while ensuring non-invasive treatment for patients, with good protective effects on the patient's body. At the same time, it can alleviate the patient's own pain and avoid misdiagnosis of acute abdomen. Ultrasound examination is a fast clinical procedure that can effectively understand the patient's uterine structure, internal sensitivity, and display rate. Ultrasound examination technology is not affected by the patient's own obesity or intestinal inflation interference. The rational use of probes for physical examination of patients, based on actual examination methods to obtain various data and information, develop accurate treatment plans, and provide various assistance and support for later surgery. It can accurately and accurately determine the location and nature of the disease, which is an important basis for clinical diagnosis and treatment.

Although the current ultrasound diagnostic technology has high accuracy, there are still phenomena of misdiagnosis and missed diagnosis. According to Chen Xiangqun's research, ultrasound diagnosis has a misdiagnosis rate of 13.80% when used. However, with the progress of ultrasonic diagnosis technology, this loophole has also been supplemented and improved. When the new Ultrasonic testing instrument is used, the pictures taken by ultrasonic diagnosis can be clearer, so it is still an extremely important inspection method in the diagnosis of gynecological acute abdomen. The use of transvaginal ultrasound in the diagnosis of acute abdomen in obstetrics and gynecology has higher clinical value and high accuracy. If combined with fine needle aspiration for pathological biopsy during ultrasound examination, the accuracy can be greatly improved. In this experiment, due to hospital equipment limitations, the combined fine needle aspiration biopsy method was not used.

## Summary

In summary, the use of ultrasound in obstetrics and gynecology has a significant effect on diagnosis. Through the use of this technology, a large amount of clinical data can be provided for medical work. Before surgery, using this method to perform ultrasound examinations for different gynecological emergencies has diverse manifestations, and it is necessary to

combine with clinical signs, symptoms, and other auxiliary examinations to conduct a comprehensive analysis of the patient's case, Improve the diagnostic accuracy of patients and reduce the occurrence of misdiagnosis and missed diagnosis.

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