

学位論文の要旨

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学位論文名 Diagnosis of Ectopic Pregnancy with MRI: Efficacy of
 T_2^* -weighted Imaging

発表雑誌名 Magnetic Resonance in Medical Sciences
(巻,初頁~終頁,年) 5, 25-32 (2006)

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論文内容の要旨

INTRODUCTION

Ectopic pregnancy (EP) is getting popular because salpingitis related to STD (sexually transmitted disease) is increasing. An early detection of EP is not uncommon because qualitative analysis of UCG (urinary human chorionic gonadotropin) and TVUS (transvaginal ultrasonography) is getting popular. So, typical cases are not difficult to diagnose as EP. However, there are some cases that are difficult to establish the diagnosis based on these traditional examinations. At present those cases are candidates of diagnostic laparoscopy. There are varieties of options of treatment of EP. An accurate non-invasive method of diagnosis is important to select adequate therapy. The purpose of this study is to assess the usefulness of MRI, with an emphasis on the efficacy of T_2^* -WI, in diagnosing EP.

MATERIALS AND METHODS

This is a prospective study of 24 female patients (age range, 16 to 41 years old; mean, 29.9 years old) clinically suspected of EP. All had positive pregnancy tests, and sonography showed no intrauterine pregnancy. MRI was performed with a 1.5T imager. T_2 -WI, T_1 -WI, and T_2^* -WI were obtained without contrast. One of 4 radiologists interpreted images based on TVUS and laboratory results. Abnormal adnexal mass with remarkable low signal area on T_2^* -WI was diagnosed as EP.

RESULTS AND DISCUSSION

We diagnosed 19 cases as EP. Tubectomy in eighteen and abdominal total hysterectomy in one confirmed diagnosis. In one undergoing diagnostic laparoscopy, EP was denied. In 5 cases diagnosed negative based on the above criterion, no mass was detected in three, and no area of low signal was recognized on T_2^* -WI in the masses in two. EP was denied in four of five, and in one of the five, who underwent tubectomy, EP without bleeding was diagnosed. All EP were tubal pregnancies at final diagnosis, 19 were ampullar pregnancies and one, interstitial. Using MRI to diagnose EP, with T_2^* -WI as a key diagnostic factor, sensitivity was 95%, specificity 100%, and accuracy 96%. Our results show the superiority of T_2^* -WI in detecting and characterizing EP because of its sensitivity to fresh hematoma. T_2^* -WI could recognize fresh hematoma in all true positive cases and its absence in all true negative cases with adnexal mass.

CONCLUSION

MRI using T_2^* -WI is a sensitive, specific, and accurate method to evaluate EP. T_2^* -WI is highly accurate for detecting and diagnosing EP because of its sensitivity to fresh hematoma.