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◇ CASE REPORT ◇

Superb Microvascular Imaging（SMI）で観察した頸管妊娠の1例

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抄　録

SMI はカラードプラの中でも，独自のアルゴリズムを用いて，組織の動きの特徴を解析してその信号を分離し，モーションアーチファクトを大幅に減らすことができる技術で，微細で低流速の血流を捉えて画像化することが可能である．本報告では，妊娠の初期で，パワードプラを用いても血流を描出するのが困難な頸管妊娠に，SMI を用いて評価が可能であった1例を示す．症例は，最終月経より妊娠6週1日，経腟超音波で子宮内膜は均一にやや highechoic に肥厚していたが，子宮内に胎嚢を認めなかった．子宮頸管内に highechoic な輪郭をした類円形の嚢胞状の無エコー領域があり，white ring を有する胎嚢と考えられた．胎児心拍を認めず，頸管妊娠もしくはその流産と診断した．従来の超音波パワードプラ検査では，絨毛周囲，脱落膜に血流を描出できなかったが，SMI では，絨毛を取り囲むような脱落膜の微細な血管を描出できた．血中 hCG は 2, 899 IU/l であった．経過観察中に上昇傾向を認めたため，頸管妊娠が継続していると考えて MTX 50 mg/m^2（70 mg/body）を筋注した．7日後，頸管内に同様に胎嚢認め，SMI ではその周囲に血流を描出できたが，入院時のものと比べて減弱していた．MTX 投与 12 日後，出血と腹痛があり絨毛，胎嚢の娩出を認め，血中 hCG は 39 mIU/ml となった．SMI では頸管や子宮下節の内膜にドプラ信号を検出しなかった．その後，病理組織診断で娩出物に絨毛を確認し，hCG の再上昇は認めていない．

A case report of uterine cervical pregnancy evaluated by Superb Micro-vascular Imaging

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Abstract

Superb Micro-vascular Imaging（SMI）is a new Doppler imaging technique that employs a unique algorithm to minimize motion artifacts by eliminating clutter signals based on analysis of tissue movement. SMI significantly reduces motion artifacts and allows visualization of low-velocity blood flow in small vessels. In this case report, a case of early cervical pregnancy, which is difficult to detect with power Doppler, is presented to demonstrate the feasibility of SMI for evaluating such cases. At 6 weeks' gestation from the last menstrual period, ultrasonography showed a thickening of the hyperechoic endometrium with no sign of a gestational sac in the uterus. However, a gestational sac with a white ring was detected in the cervical canal, and the heartbeat of the embryo could not be detected; therefore, the case was suspected of uterine cervical pregnancy or abortion. Conventional power Doppler could not detect blood flow signals around villi and decidua, while SMI showed minute blood vessels in the decidua surrounding the villi. Blood concentration of hCG was 2, 899 IU/l. Because a diagnosis of cervical pregnancy was made, MTX 50 mg/m^2（70 mg/body）was administrated. Seven days after systemic MTX, reduced blood flow signals around the gestational sac in the cervical canal were demonstrated by SMI. Twelve days after administrating MTX, the pregnant woman experienced hemorrhage and abdominal pain. Discharge of the villi and gestational sac was confirmed. The hCG level was 39 mIU/ml. At the same time, no Doppler signals were detected by SMI in the lower uterine segment endometrium and cervical canal. We believe that SMI has a strong potential for demonstrating the effectiveness of treatment in ectopic pregnancy even during early stages of pregnancy. The clinical usefulness and future potential of SMI in the field of obstetrics and gynecology are remarkable.

Keywords

uterine cervical pregnancy, Superb Micro-vascular Imaging, power Doppler, MTX

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