

Prenatal ultrasound diagnosis of invasive placentation in patients with placenta Praevia



Taita Stojilković

Clinical Centre of Vojvodina, Serbia

Biography

Taita Stojilković graduated in 1988 at the Medical Faculty in Novi Sad and completed her specialization in gynecology and obstetrics in 1997 at the Clinic for Gynecology and Obstetrics in Novi Sad. During her specialization, she spent several months in training at Guy's Hospital in London, studying and working in the team of Prof. Michael Chapman, who is one of the world's most recognized experts in sterility and in vitro fertilization, and who now lives and works in Australia. Immediately after completing her specialization, she went to London for further training, where she worked with top experts in the field of fetal medicine and prenatal diagnostics. She began her research work at the Center for Fetal Care, Institute of Obstetrics and Gynecology, Queen Charlotte's and Chelsea Hospital under the patronage of Prof. Nickolas Fisk. After 20 years of work at high-ranking gynecology and obstetrics clinics in London, as a doctor specializing in gynecology and obstetrics and subspecialist in perinatology, she returned to Novi Sad to the Clinic for Gynecology and Obstetrics of the Clinical Center of Vojvodina, where she specialized in selflessly young staff. She is the author and co-author of numerous professional papers in British and international journals, and participated in writing the UCLH hospital protocol (protocol of high-risk day hospital pregnancies, management of obstetric cholestasis, antenatal anemia, gestational diabetes in pregnant women).



Introduction: Invasive placentation refers to different grades of morbid placental attachment to the uterine wall secondary to invasion of the trophoblast into the myometrium beyond the uteroplacental interface. The incidence of placenta accreta (PA) in patients with a placenta previa increases with history of cesarean delivery and by becoming the rising health problem as a main indication for performing peripartum hysterectomy. Outcome of the patients with PA depends on adequate prenatal diagnosis of the invasive placentation, because planned caesarean section and management is associated with lower maternal morbidity rate. Prenatal diagnosis of invasive placentation relies on ultrasound and colour Doppler. The aim of this study was to evaluate the performance of ultrasound in prenatal diagnosis of invasive placentation and compare prenatal diagnosis with operative findings and outcome of the patient.

Materials and methods: This retrospective-prospective study was done in a single site tertiary delivery centre in Novi Sad over a period of six years. Total number of pregnant women with persistent placenta praevia was 116. All patients underwent transabdominal, transvaginal and colour Doppler ultrasound evaluation in the second and third trimester of pregnancy because of the high risk of invasive placentation. The sonographic signs included in this study were the ones most commonly reported to be associated with invasive placentation: vascular lacunae within the placenta, loss of normal hypoechogenic retroplacental zone, interruption of the bladder line and/or focal exophytic masses extending into the bladder spaces and colour Doppler abnormalities such as abnormal blood vessels at the myometrium. Other medical data were collected from the medical histories of the patients. All data were statistically analysed.

Results: Over six-year period a total number of 116 placenta praevia cases were identified. Seventeen cases (14.6%) had invasive placentation confirmed by surgical and histopathological finding. In this series, the sensitivity of ultrasound and colour Doppler in diagnosis of invasive placenta praevia was 82.3% and the specificity 96.9%. The positive and negative predictive values were 82.3% and 97.9% respectively. Invasive placenta praevia were located predominantly at anterior uterine wall (14/17, 82.3%). Patients with invasive placenta praevia had in average 3 pregnancies and 2 deliveries. Peripartum hysterectomy was performed in all 17/116 patients. The mean estimated blood loss among the patients with invasive placenta praevia was 4571 ml (range 1200–8500 ml), while the mean estimated blood loss among the patients with placenta praevia with no signs of abnormality was 1988 ml (range 200–4000 ml). There was no long-term maternal morbidity and there were no maternal deaths in the series.

Conclusions: The ultrasound has a high accuracy for prenatal diagnosis of invasive placentation in patients with persistent placenta praevia. The use of colour Doppler improves the test performance. Placenta praevia and previous uterine surgery represent the major risk factors for invasive placentation. The outcome of the patients with adequate prenatal diagnosis of invasive placentation is better. Despite improved management of the patients with PA, we should think about way to prevent occurrence of this serious condition. At the Clinic of Gynecology and Obstetrics in Novi Sad modified technique of the uterus closure in caesarean section was developed (Caesarean section – Modification Vejnović). The principals of the technique are to make smaller uterine scar and preserve the thickness of the uterine wall. The hypothesis of the ongoing research is that operative technique influences the incidence of the placenta accreta.

Publications

Relationship between maternal cardiac remodeling in preeclampsia and pregnancy outcome.

Prenatal identification of invasive placentation using ultrasound.

TRAP (Twin Reversed Arterial Perfusion) sequence

Intrahepatic cholestasis in pregnancy.

Evaluation of Allelic Expression of Imprinted Genes in Adult Human Blood—An Emerging Complex.

World Congress on Fetal and Maternal Medicine | Singapore | July 29-30, 2020

Citation: Taita Stojilković, *Prenatal ultrasound diagnosis of invasive placentation in patients with placenta praevia*, Fetal Medicine 2020, World Congress on Fetal and Maternal Medicine, Webinar (Singapore), July 29-30, 2020, pp: 10