

Diagnostic accuracy of prenatal diagnostics in the detection of placenta spectrum disorders: implementation of an international consensus

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Objective

Standardized evaluation of ultrasound parameters for the prediction of placental invasion is essential to reduce maternal morbidity and mortality. Our center has been member of the International Society for Placenta Accreta Spectrum (IS-PAS) since 2017 and we follow an international diagnostic consensus. All prenatal suspected cases of PAS must be confirmed by histopathological examination. According to recently published data, we also deal with theory that the PAS can be caused by a primary uterine abnormality.

Methods

The aim of our pilot study was evaluated the agreement between the prenatal diagnosis and intraoperative findings with the postoperative histopathology diagnosis in a group of 20 high - risk patients examined according to international diagnostic criteria. The histopathological re-examinations are still ongoing. The secondary goal was to determine the strength of the association between each ultrasound marker and to test individual predictive accuracy.

Results

Histopathological grading according to the International Federation of Gynecology and Obstetrics classification was: 1/20 of the group of patients was false positive (postpartum hysterectomy was performed). 1/20 of the patients was false negative, we assumed a dehiscence lower uterine segment (hysterectomy was performed, and histological examination revealed focal placenta accrete). MRI was performed in 90% (18/20) cases and confirmed the diagnosis in all cases. Ultrasound as the primary method showed a sensitivity of 92% and a specificity of 85.7%. Sensitivity and specificity for each ultrasound marker was calculated with respect to individual cases. The loss of retroplacental clear zone showed the best sensitivity and specificity, the most specific feature was placental bulge, uterovesical hypervascularity and the presence of bridging vessels showed high sensitivity. Our cases and the further development of histopathological examination led us to revise all histological samples.

Conclusion

High sensitivity and specificity of prenatal diagnosis can be achieved using uniform diagnostic criteria. New insight into histopathologic examination could support the theory that the "invasion changes" are the consequence of postoperative surgical remodeling or a preexisting uterine pathology.