

# INPLASY PROTOCOL

To cite: Feng et al. MRI Signs for Prenatal Prediction of Placenta Accreta Spectrum Disorders and Invasiveness in High-risk Pregnant Women: A Systematic Review and Meta-Analysis. Inplasy protocol 2022110003. doi: 10.37766/inplasy2022.11.0003

Received: 01 November 2022

Published: 01 November 2022

**Corresponding author:**  
Zhichao Feng

fengzc2016@163.com

**Author Affiliation:**  
The Third Xiangya Hospital of  
Central South University

**Support:** ST Agency, Hunan  
Province.

**Review Stage at time of this  
submission:** Piloting of the  
study selection process.

**Conflicts of interest:**  
None declared.

## MRI Signs for Prenatal Prediction of Placenta Accreta Spectrum Disorders and Invasiveness in High-risk Pregnant Women: A Systematic Review and Meta-Analysis

Feng, ZC<sup>1</sup>; Yan, ZM<sup>2</sup>; Liu, QY<sup>3</sup>.

**Review question / Objective:** This meta-analysis aimed to identify the significant MRI signs for placenta accreta spectrum in high-risk pregnant women and to determine their diagnostic value.

**Condition being studied:** Placenta accreta spectrum (PAS) is a dangerous complication in pregnancies with increasing incidence worldwide, in which the villous tissue adheres or invades the uterine wall.

**Eligibility criteria:** Articles assessing the diagnostic performance of MRI signs for PAS and/or placenta percreta in high-risk pregnant women underwent full-text review. Included studies required confirmation of diagnosis based on intraoperative and/or pathologic findings.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 01 November 2022 and was last updated on 01 November 2022 (registration number INPLASY2022110003).

### INTRODUCTION

**Review question / Objective:** This meta-analysis aimed to identify the significant MRI signs for placenta accreta spectrum in high-risk pregnant women and to determine their diagnostic value.

**Rationale:** Multiple individual studies have reported various MRI signs for predicting PAS, while the reported results seem quite variable or even conflicting. The Society of Abdominal Radiology and European Society of Urogenital Radiology (SAR-ESUR) statement provides several salient MRI features of PAS disorders based on

---

consensus among experts. To our knowledge, the diagnostic performance of each MRI sign for PAS and its invasiveness have not yet been systematically evaluated.

**Condition being studied:** Placenta accreta spectrum (PAS) is a dangerous complication in pregnancies with increasing incidence worldwide, in which the villous tissue adheres or invades the uterine wall.

## METHODS

**Search strategy:** A computerized search of PubMed, Embase, and Cochrane Library databases from the time of their inception to September 2022. Search criteria included variations of the following: placenta AND (accreta OR adhesion OR implantation OR invasion) AND (magnetic resonance OR MRI).

**Participant or population:** High-risk pregnant women for PAS.

**Intervention:** NA.

**Comparator:** NA.

**Study designs to be included:** cohort study, case-control study, and observational study.

**Eligibility criteria:** Articles assessing the diagnostic performance of MRI signs for PAS and/or placenta percreta in high-risk pregnant women underwent full-text review. Included studies required confirmation of diagnosis based on intraoperative and/or pathologic findings.

**Information sources:** PubMed, Embase, and Cochrane Library databases; Reference lists for relevant studies.

**Main outcome(s):** The presence of PAS and/or placenta percreta.

**Quality assessment / Risk of bias analysis:** The methodologic quality of eligible articles in the meta-analysis was evaluated by using the Quality Assessment of Diagnostic Accuracy Studies-2 (QUADAS-2) tool.

**Strategy of data synthesis:** Pooled relative ratios (RRs) with 95% confidence interval (CI) of MRI signs for PAS and placenta percreta were generated using random or fixed effects models according to the heterogeneity.

**Subgroup analysis:** NA.

**Sensitivity analysis:** Sensitivity analyses were conducted by omitting a single study in turn to test the robustness of the results.

**Language restriction:** Only studies published in the English language were included.

**Country(ies) involved:** China.

**Keywords:** Placenta accreta spectrum; MRI signs; diagnostic performance; relative ratio.

**Contributions of each author:**

Author 1 - Zhichao Feng.

Email: fengzc2016@163.com

Author 2 - Zhimin Yan.

Author 3 - Qianyun Liu.