INPLASY PROTOCOL

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None declared.

The Diagnositic Effificiency of Diffusion Magnetic Resonance Imaging in Placenta Accreta: A Systematic Review and Meta-Analysis

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Review question / Objective: **Placenta accreta spectrum (PAS) is a dangerous pregnancy complication whose incidence is increasing worldwide, especially in advanced maternal age which has been gradually increasing in recent years, The incidence of PAS is also gradually increasing.This meta-analysis aimed to evaluate the diagnostic value of diffusion weighted magnetic resonance imaging in patients with placenta accreta.**
Condition being studied: **Placenta accreta is a dangerous complication in pregnancies with increasing incidence worldwide. Invasion or adheres of placental villi tissue into the myometrium requires detection using tests that allow observation of microscopic changes.Diffusion-weighted imaging (DWI) provides more microscopic information about tissues by detecting the diffusion of water molecules in biological tissues.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 28 December 2022 and was last updated on 28 December 2022 (registration number INPLASY2022120110).

INTRODUCTION

Review question / Objective: **Placenta accreta spectrum (PAS) is a dangerous pregnancy complication whose incidence is increasing worldwide, especially in advanced maternal age which has been gradually increasing in recent years, The incidence of PAS is also gradually increasing.This meta-analysis aimed to evaluate the diagnostic value of diffusion**

weighted magnetic resonance imaging in patients with placenta accreta.

Rationale: Multiple individual studies have reported DWI for predicting PAS, while the reported results seem quite variable. Diffusion-weighted imaging (DWI) provides more microscopic information about tissues by detecting the diffusion of water molecules in biological tissues.Provides more microscopic information about tissues by detecting the diffusion of water molecules in biological tissues. and generates Apparent diffusion coefficient (ADC) values for quantitative assessment.

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METHODS

Search strategy: A computerized search of PubMed, Embase, and Cochrane Library databases from the time of their inception to December 2022. Search criteria included variations of the following: placenta accreta (Placenta Increta or Placenta Percreta) AND Diffusion Magnetic Resonance Imaging(Diffusion MRI OR Diffusion Weighted MRI OR DWI or ADC) AND sensitiv OR specificity OR predictive value of tests OR accuracy.

Participant or population: Participant and population:pregnant women with PAS.

Intervention: NA.

Comparator: NA.

Study designs to be included: Cohort study, Case-control study, and Observational study.

Eligibility criteria: Full-text review of articles assessing the diagnostic effectiveness of DWI for PAS was conducted. Included studies required confirmation of diagnosis based on intraoperative and/or pathologic findings.

Information sources: PubMed, Embase, OVID, Cochrance, Scoups and CNKI, CBM, VIP, wanfang, duxiu databases; Reference lists for relevant studies.

Main outcome(s): Diagnostic efficiency; sensitivity; specificity; positive likelihood ratio; negative likelihood ratio; AUC;DOR.

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: The pooled sensitivity, pooled specificity, pooled positive likelihood ratio(+ LR),pooled negative likelihood ratio(- LR),pooled AUC; pooled diagnostic ratio DOR with 95% confidence of DWI for PAS and placenta percreta were generated using random or fixed effects models according to the heterogeneity.

Subgroup analysis: The effificiency of combined T2WI+DWI for diagnosis of PAS;Or based on field strength, disease typing, etc.

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

Country(ies) involved: China.

Keywords: placenta accreta; Diffusion Magnetic Resonance Imaging; DWI; Diagnosis; sensitiv; specificity.

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