



Royal College of
Obstetricians &
Gynaecologists

From Diagnostics to Outcomes: Innovations Shaping Placenta Accreta Spectrum Disorder Management

EP.1178

**RCOG WORLD
CONGRESS 2025**
23-25 June 2025 | ExCeL London

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STUDY DESIGN AND METHODS

This systematic review encompasses studies published in peer-reviewed journals over the past decade, focusing on innovations in the management of PAS. A comprehensive search of PubMed, Embase, and Cochrane Library was performed using predefined keywords including "placenta accreta spectrum," "placenta previa," "surgical innovations," and "management strategies." Inclusion criteria required studies to focus on PAS disorders, explicitly detailing methodologies, interventions, and clinical outcomes. Extracted data were stratified into diagnostic advancements, surgical innovations, and adjunctive therapies. Both qualitative and quantitative analyses were employed, with meta-analysis conducted where sufficient homogeneous data were available.

DATA ANALYSIS

Pooled data were analyzed to quantify the impact of innovations on key clinical outcomes such as intraoperative blood loss, transfusion requirements, maternal morbidity, and mortality. A random-effects model was applied to address heterogeneity in study design and patient populations. Subgroup analyses explored differences in outcomes based on geographic and resource settings.

RESULTS

The review identified substantial advancements in the management of PAS:

CONCLUSION

Innovative diagnostic and therapeutic strategies have redefined the management paradigm for PAS, leading to significant reductions in maternal morbidity and mortality. While these advancements represent a major step forward, challenges persist in achieving equitable access, particularly in resource-constrained settings. Future directions include validating emerging AI-based diagnostic tools, refining minimally invasive surgical techniques, and developing cost-effective management protocols. Multicenter, randomized controlled trials are essential to evaluate these innovations further and optimize their global applicability.

This review underscores the critical role of research, innovation, and multidisciplinary collaboration in improving outcomes for patients with PAS and highlights the ongoing need for equitable healthcare delivery worldwide.