

Fertility, pregnancy and perioperative outcomes after operative hysteroscopy for uterine septum: a network meta-analysis.

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ABSTRACT

INTRODUCTION: Septate uterus is a congenital malformation associated with adverse reproductive and pregnancy outcomes. It remains controversial whether hysteroscopic septoplasty should be recommended for the treatment of septate uterus, and it is also unclear if different hysteroscopic methods have more favorable outcomes. This study aims to compare the available hysteroscopic techniques of septoplasty for fertility, reproductive, and perioperative outcomes.

METHODS: This systematic review and meta-analysis was conducted following PRISMA guidelines. We searched Medline, Scopus, and Cochrane databases up to April 2023 without language restrictions. Eligible studies had to compare two or more different methods of hysteroscopic septoplasty in women with septate uterus and report on fertility and pregnancy outcomes after a follow-up. Perioperative outcomes were also examined. Data extraction was performed by two independent reviewers using a standardized form. Risk of bias was assessed using the Newcastle-Ottawa Quality Assessment Form and Revised Cochrane risk-of-bias tool (RoB 2).

RESULTS: Out of 561 studies identified, 9 were included in the systematic review and meta-analysis. The comparison of different hysteroscopic septoplasty techniques based on the energy used showed higher pregnancy rates after mechanical septoplasty in comparison to electrosurgery, while miscarriage and live birth rates were comparable. Laser vs. electrosurgery and mechanical techniques of septoplasty had comparable pregnancy, miscarriage, and live birth rates. The network meta-analysis after comparing every different method used showed significantly higher clinical pregnancy rate in scissor group in comparison to resectoscope. No significant differences were found among the techniques regarding miscarriage rate and live birth rate.

CONCLUSION: In summary, this systematic review and network meta-analysis suggests that hysteroscopic septoplasty with scissors is associated with higher pregnancy rates compared to resectoscope. However, the limited evidence available and small sample sizes in the included studies indicate that these findings should be interpreted with caution. Further studies are required to determine the effectiveness of various hysteroscopic techniques and guide clinical decision-making in the management of this condition.