Septum resection in women with a septate uterus: a cohort study

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Background

• Most common congenital abnormality
• 2.3%
• Often surgery recommended
Septum Study Outcome

- Infertility
- Early pregnancy loss
- Preterm Labor
- Fetal malpresentation.
Pathophysiology

• The intrauterine Septum consist of
  ➢ Endometrium
  ➢ Myometrium
  ➢ Vascularization

• The intrauterine Septum has
  ➢ Lower expression of HOXA10 genes
  ➢ Lower levels of VEGF receptors
  ➢ Lower number of glandular cells and ciliae

Rikken JFW, Leeuwis-Fedorovich NE, Letteboer S, Emanuel MH, Limpens J, van der Veen F, Godijn M, van Wely M. The pathophysiology of the septate uterus: a systematic review. BJOG 2019;126:11 92–1199.
Septum Resection
Current Evidence

- Low grade evidence (grade C)
  1. Observational studies in a before/after design
     Better outcome
  2. Non randomized comparative studies
     Better outcome or no difference

- Current guidelines
  - ASRM: It is reasonable to remove an intra-uterine septum
  - ESHRE, NICE, RCOG: The procedure must be evaluated in future studies
1. Study Question

Does hysteroscopic resection improve reproductive outcome in women with a septate uterus?
2. Study Design

International multicenter cohort study

Study population: women with a septate uterus and a wish to conceive: Resection or expective management.

Primary outcome: life birth

Secondary outcome: ongoing pregnancy, pregnancy loss, preterm birth and malpresentation.

Statistical analysis

- Baseline characteristics and data on all pregnancies
- Kaplan-Meier, Cox regression and logistical regression
- Possible confounders: age, BMI, smoking, ethnicity, country, subfertility, pregnancy loss, preterm birth, previous life birth
3. Study Flowchart

291 eligible women

exclusion of women with no active wish to conceive (n=34)

248 women eligible for analysis

9 not available

143 women retrospectively (n=123) prospectively (n=20)

78 women retrospectively

Birmingham, UK

74 women retrospectively

Chicago, USA

248 women eligible for analysis

9 not available
### 4. Patient Baseline Characteristics

| Patients                | Septum Resection | Expectant management | P value |
|-------------------------|------------------|----------------------|---------|
| Women                   | 148              | 100                  |         |
| Mean age                | 32.2             | 31.1                 | 0.1     |
| BMI                     | 25.5             | 24.8                 | 0.17    |
| Smoking                 | 11               | 5                    | 0.45    |
| Previous miscarriage    | 90 (60%)         | 50 (50%)             | <0.01   |
| Previous birth          | 36 (24%)         | 37 (37%)             | <0.01   |
5. Reproductive outcome

| Patients                | Septum Resection | Expectant management | OR         |
|-------------------------|------------------|----------------------|------------|
| Women                   | 148              | 100                  |            |
| Life birth              | 51%              | 71%                  | 0.71 (0.49-1.04) |
| Ongoing Pregnancy       |                  |                      | 1.00 (0.52-1.96) |
| Pregnancy loss          | 33%              | 28%                  | 1.43 (0.77-2.67) |
| Preterm Birth           | 90 (60%)         | 50(50%)              | 1.35 (0.58-3.16) |
| Fetal Malpresentation   |                  |                      | 0.54 (0.23-1.29) |

No difference
6. Sub-analyses in women with pregnancy loss

| Patients                     | OR       |
|------------------------------|----------|
| Life birth                   | 1.02 (0.46-2.25) |
| Ongoing Pregnancy           | 1.24 (0.55-2.76) |
| Pregnancy loss               | 2.61 (1.16-5.88) |
| Preterm Birth                | 1.35 (0.58-3.16) |
| Fetal Malpresentation        | 0.54 (0.23-1.29) |

Higher repeat loss in surgery group
7. Sub-analyses in women with subfertility

| Patients               | OR            |
|------------------------|---------------|
| Life birth             | 1.15 (0.34-3.92) |
| Ongoing Pregnancy     | 1.53 (0.48-4.80) |
| Pregnancy loss         | 1.11 (0.34-3.59) |
| Preterm Birth          | 1.25 (0.24-6.55) |
| Fetal Malpresentation  | 0.44 (0.10-1.95) |

No difference
Take Home Message

• in women with a septate uterus septum resection does not lead to improved fertility and pregnancy outcomes compared to expectant management.

• RCT is needed

• Awaiting those results septum resection should not be performed