Toggling with the Tone

How does parity affect required MAC during fetoscopic MMC repairs?

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Tocolysis & fetal surgery

Uterine relaxation = key anesthetic consideration

How do we determine maximum MAC (minimum alveolar concentration)?

- Maximum required MAC: balance between preventing contractions (not too low) and keeping as low as possible (not too high)
  - Hemodynamic effects for pregnant patient & fetus
  - Biomechanical implications – can the uterus be too relaxed?

Myometrial "memory"?

Does the amount of volatile anesthesia required for adequate uterine relaxation during fetoscopic myelomeningocele (MMC) repairs differ for nulliparous (P0) and parous (P ≧ 1) patients?

Methods

What? Retrospective study

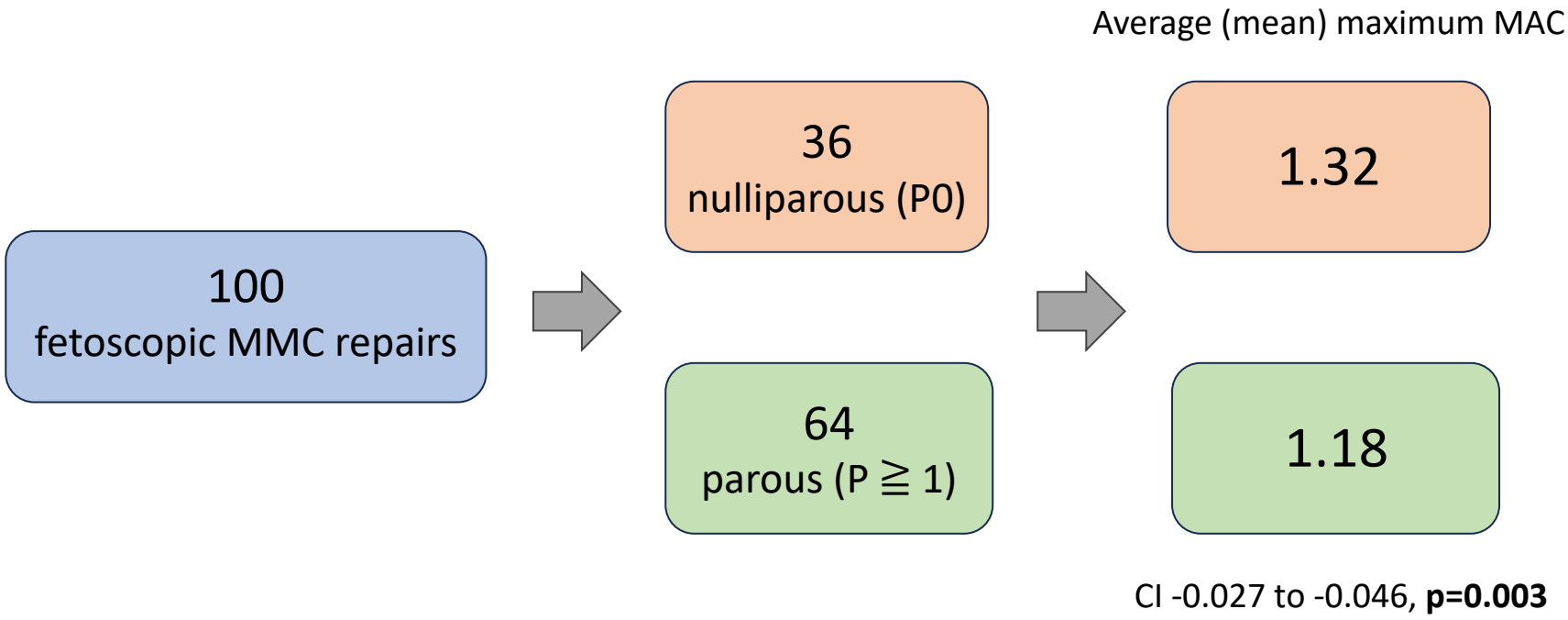
Who? 100 patients who underwent fetoscopic MMC repair

When? 4 year period (January 2020 – January 2024)

How? Two-sided, unpaired t-test with $p<0.05$ considered significant
Maximum MAC values between nulliparous (P0) v. parous (P≧ 1) patients

Why? Examine relationship between parity and volatile anesthesia requirement for adequate tocolysis for fetoscopic MMC repair

Results


Average (mean) maximum MAC
100
fetoscopic MMC repairs
36
nulliparous (P0)
1.32
64
parous (P ≧ 1)
1.18
CI -0.027 to -0.046, **p=0.003**

Discussion

- Important to provide enough (but not too much!) uterine relaxation
  - Better able to avoid potentially problematic effects of volatile anesthetics
- Considerations for ideal tocolytic approach for fetal surgeries
  - Type of surgery
  - Key surgical steps
  - Parity
- Limitations
  - Single center, small cohort
  - Adequate uterine relaxation – subjective measurement
  - Does statistical significance = clinical impact?