Use of Cervical-Ripening Foley-Balloon for Membrane Reduction at the Time of Physical Exam Indicated Cerclage

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Background

Cervical insufficiency remains one of the highest risk factors for preterm births. For patients with cervical insufficiency, one option for treatment management includes cerclage placement to prolong the interval between diagnosis and delivery. There are typically a higher number of individuals who require rescue cerclage that have the additional presence of bulging membranes during the time of cerclage placement. **This greatly increases the risk of inadvertent membrane rupture and subsequent delivery and complications. To mitigate this risk, we suggest using a cervical ripening balloon to displace fetal membranes for to allow for easier and more effective cerclage placement.** This case series demonstrates that cervical ripening balloons can be used to displace membranes to aid in cerclage placement without increased risk for rupture of membranes at the time of cerclage placement.

Objective

Describe the use of cervical-ripening Foley - balloon for membrane reduction at the time of physical exam indicated cerclage in a consecutive case series

Methods

Retrospective case series of patients presenting for a physical exam indicated cerclage between July 2021 and November 2023 at two institutions.

Protocol
- *Spinal anesthesia
- *Foley catheter in bladder
- *Perioperative Cefazolin and Indomethacin
- *Inflate uterine balloon 20 to 40 mL

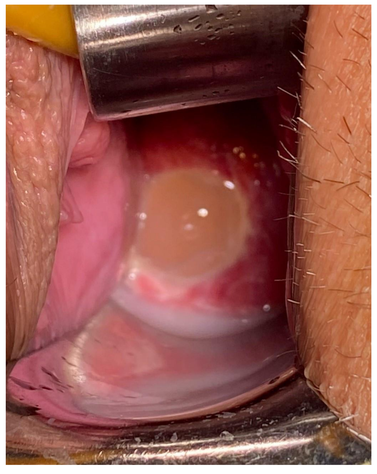
Data collected
- *gestational age
- *obstetric history
- *complications
- *timing of delivery
- *duration of latency from placement to delivery

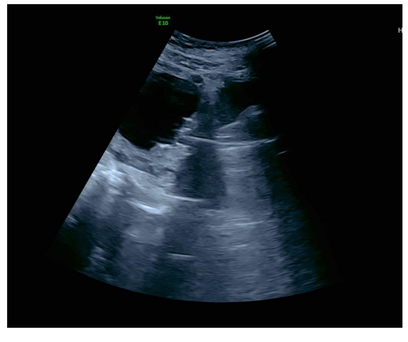
Exclusion Criteria
- *> 23+6 weeks gestation
- *signs of infection
- *ruptured membranes
- *signs of labor or abruption

- **Median latency calculated with interquartile range**

Results

GA Cerclage Placement	GA at Delivery	Latency (weeks)	Cervical Dilation at Cerclage Placement	Fetal Outcome
19.43	19.71	0.29	3 cm	Apgar 0/0
21.86	24.57	2.71	2 cm	Apgar 7/9
20.14	29.29	9.14	1-2 cm	Apgar 8/9
23.43	37.43	14.00	2-3 cm	Apgar 8/9
22.00	36.71	14.71	2-3 cm	Apgar 8/9
23.00	39.00	16.00	1-2 cm	Apgar 8/9
19.43	39.14	19.71	2-3 cm	Apgar 8/9





Discussion

- Our use of a cervical ripening balloon was successful in all cases in reducing fetal membranes at time of cerclage placement.
- Cervical ripening balloon catheter has a stylet that allows for easy controlled movements when reducing membranes. Dilation of balloon with saline allows for ample customization based on patient presentation and degree of bulging membranes noted.
- Median latency weeks between cerclage placement and fetal delivery was 14.00 weeks.
- Median gestational age at delivery was 36.71 weeks.
- One fetal death secondary to nonviable gestational age.

Conclusion

Replacement of membranes at the time of physical exam indicated cerclage may be aided with the use of a rigid cervical ripening balloon catheter with a stylet in addition to perioperative antibiotics and indomethacin.

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