Cervical Incompetence

By Mohammed Abdalla, MD [2]

Condition in which the cervix fails to retain the conceptus during pregnancy. Cervix length less than?? Premature ripening of the cervix Definition
Cervical Incompetence

Condition in which the cervix fails to retain the conceptus during pregnancy.
Cervix length less than ??
Premature ripening of the cervix
Definition
Etiology

- Idiopathic (most)
- Congenital disorders (congenital mullerian duct abnormalities)
- DES exposure in utero.
- Connective tissue disorder (Ehlers-Danlos syndrome)
- Surgical trauma (conization, (repeated cervical dilatation associated with termination of pregnancies)
Basic parameters
Although cervical length can be measured transabdominally and tranperinerally, transvaginal assessment is most accurate
Basic parameters

- Standard cervical measurements use the "white stripe" of the internal cervical os as an anatomic landmark for proper caliper placement
- **Anderson** found an average length of 45 ± 7 mm at 14 to 30 weeks,
- **Iams** et al found a mean cervical length of 35 ± 8 mm at 24 weeks'
Defining the short cervix
The discriminatory length of cervical shortening varies widely between 26mm (Iams et al) to 15mm (Hassan et al)
so, the progressive shortening and other cervical qualities such as funneling (and measurement of the residual cervix if funneling is present), v-shaped lower uterine segment, and dynamic changes with fundal or suprapubic pressure. Are the most important.
role of routine ultrasound screening of the cervix
in low-risk women
lacks enough discriminatory power to recommend routine use.
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role of ultrasonography in evaluating women who have had a previous pregnancy loss
is limited to populations at greatest risk
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Dr. Mohammed Abdalla
Domiat General Hospital

role of ultrasonography in evaluating women who have had a previous prenancy loss
serial TVS should not begin before 16 to 20 weeks as the upper portion of the cervix is not easily
distinguished
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In whom is a cerclage indicated?
Elective Cerclage confined to patient with three or more otherwise unexplained second-trimester pregnancy losses or preterm deliveries.
Elective Cerclage
performed at 13 to 16 weeks of gestation after ultrasound evaluation of fetal viability
Cervical incompetence

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Urgent, or therapeutic cerclage
↑
for women who have serial ultrasonographic changes consistent with a short cervix or evidence of funneling.
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Urgent, or therapeutic cerclage
In patients with a history of fewer than three second-trimester pregnancy losses, urgent cerclage is not supported by evidence-based studies, and further transvaginal ultrasound surveillance may be the more judicious approach.
short cervix before 20 weeks of gestation
the examination should be repeated because of the inability to adequately distinguish the cervix from the lower uterine segment in early pregnancy
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short cervix before 20 weeks of gestation should prompt assessment of the fetus for anomalies, uterine activity to rule out preterm labor, and maternal factors to rule out chorioamnionitis...

Regular evaluations may be performed
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Cervical change noted before fetal viability is a better indication for cerclage than if it is identified after fetal viability has been achieved. Emergency cerclage may be considered in women if clinical chorioamnionitis or signs of labor are not present.
Condition in which the cervix fails to retain the conceptus during pregnancy.
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Premature ripening of the cervix.

short cervix In the third trimester
If the patient is in labor, tocolytic therapy may delay delivery long enough to promote fetal lung maturation with maternal glucocorticoid therapy.
Condition in which the cervix fails to retain the conceptus during pregnancy.
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Definition

short cervix In the third trimester
The presence of chorioamnionitis
is grounds for immediate delivery and the use of broad-spectrum antibiotics
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Condition in which the cervix fails to retain the conceptus during pregnancy.

Cervix length less than ??

Premature ripening of the cervix.

Definition

short cervix In the third trimester
If labor or chorioamnionitis is not present, modification of activity, pelvic rest, tobacco cessation, and expectant management may be considered. Cerclage in the treatment of women with cervical insufficiency after determining fetal viability has not been adequately assessed.
Role of perioperative antibiotics and tocolytics association with cerclage placement
- The use of unnecessary antibiotics may lead to the development of resistant strains of bacteria and other morbidity for the patient and her fetus.
- No randomized studies have shown that use of tocolytic therapy after cerclage is effective. The lack of clear benefit for these adjunctive treatments suggests that these drugs should be used with caution.
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Definition

Transabdominal cerclage
an alternative approach to the incompetent cervix
Definition

- If cervix is absent or severely shortened,
- if congenital or traumatic defects
- if the transvaginal approach is not feasible or has failed.

Indications of transabdominal cerclage
Timing of placement
It is most often placed at 10 to 14 weeks gestation
OR
Preconception transabdominal cerclage placement
Preconception transabdominal cerclage placement has many practical benefits:
• easier.
• smaller incision.
• Safer to fetus.
• Can be done laparoscopically
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The overall live birth rate for prophylactic transabdominal cerclage approaches 90%, in whom transvaginal cerclage has been unsuccessful.

When cerclage is performed on an emergent basis-rather than prophylactically-the success rate drops to less than 60% due to the increased risk of rupturing the membranes during the procedure or trapping the membranes below the level of the cerclage.
Techniques
• 1-select an incision that affords optimal visualization of the operative field with minimal manipulation of the uterus.
• 2.-Preconception placement can be performed through a small Pfannestiel incision or using a laparoscopic approach.
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Techniques

- 3-open the peritoneal cavity and pack the bowel away from the operative field.
- 4-Create a bladder flap at the level of the internal os
- 5-extend the incision laterally to the broad ligament to maximize exposure of the uterine vessels.
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Techniques
- 6-Assistant gently lift the uterus from the pelvis by cradling the fundus anteriorly and posteriorly between the hands
- 7-Identify the avascular space that is medial to the uterine artery and adjacent to the uterus by gentle lateral traction of the vessels with the fingers
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Techniques
• 8-using blunt needles to which the band is attached, Pass a 5-mm polyester band around the circumference of the uterus at the level of the internal os.
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Techniques
• 9-Ensure that the band is flattened circumferentially around the cervix before tying it snugly against the anterior aspect of the uterus at the level of the internal os with 6 single square knots
• 10-Secure the tails of the knots to the polyester band or adjacent tissues using a small-guage silk suture to minimize irritation of the bladder.
• 11-Close the bladder flap inward to minimize adhesions to the suture.
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*Suture displacement,
*rupture of membranes,
* and chorioamnionitis
are the most common complications associated with vaginal cerclage placement.
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*Transabdominal cerclage can be complicated by:
- rupture of membranes.
- chroiomnionitis.
- intraoperative hemorrhage.
- known risks associated with laparotomy.
Life-threatening complications of uterine rupture and maternal septicemia are extremely rare but have been reported with all types of cerclage.
Basic parameters

Although cervical length can be measured transabdominally and transperineally, transvaginal assessment is most accurate

Thank you

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