

6-1959

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Recommended Citation

Gilkey, William C. (1959) "Cervical Incompetence," *Henry Ford Hospital Medical Bulletin* : Vol. 7 : No. 2 , 84-87.
Available at: <https://scholarlycommons.henryford.com/hfhmedjournal/vol7/iss2/6>

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CERVICAL INCOMPETENCE

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Cervical incompetence causing pregnancy wastage during the second trimester is characterized by painless dilatation of the cervix and precipitous expulsion of the placenta, membranes, and fetus. The onset is insidious and usually occurs at about 20 weeks gestation. Little concern has been given to this condition until recently because of its relative rarity. It may be one of the most important factors causing habitual abortion in the middle trimester.

To make the diagnosis of an incompetent cervix, certain requisites are necessary. The story of repeated pregnancy losses in the mid trimester must be obtained through a very careful medical history. Sudden loss of amniotic fluid between the 16th and 28th week of gestation without preceding painful contractions is a most significant feature. Theoretically, there seem to be two types of cervical incompetence. Less common than the acquired is the congenital type, occurring in women who have never been pregnant nor have undergone operations related to the cervix. The second type is due to trauma to the cervix, either from delivery or dilatation and curettage of the cervix.

With a history of repeated mid-pregnancy losses, cervical incompetence may be proved by examining the patient at weekly intervals during the critical period. If the cervix painlessly becomes effaced and dilated between the 14th and 28th week it is incompetent. Dilatation is painless and may occur in a week or gradually over a longer period of time. The membranes become palpable, often bulging out to, or beyond the external os. The uterus is usually not irritable, and the membranes can be displaced back into the uterus. The fetus may float down through the cervix within the membranes.

Interest in this condition was aroused during the past year by five patients observed with this difficulty. Four have undergone attempts at surgical correction. Two other cases are reported which were discovered before surgical correction was used.

Case No. 1

L.W., aged 31, gravida 2, para 0, was first observed in 1952. Her first pregnancy ended in a three month spontaneous abortion. At 16 weeks of pregnancy, this patient was seen for the first time in the Out-Patient Department for a prenatal visit. She complained of pressure in the vagina. Examination revealed the membranes presenting almost to the introitus; the cervix was almost completely dilated. Fetal parts could be felt within the sac. Shortly thereafter, contractions began and contents of the uterus were expelled intact. Labor lasted 2½ hours and was essentially painless.

Case No. 2 (Figure 1, 2, and 3)

P.G., aged 36, gravida 5, para 0, when 16 weeks pregnant was admitted to the hospital for observation because of asymptomatic dilatation of the cervix. She was

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Incompetent Cervical Os

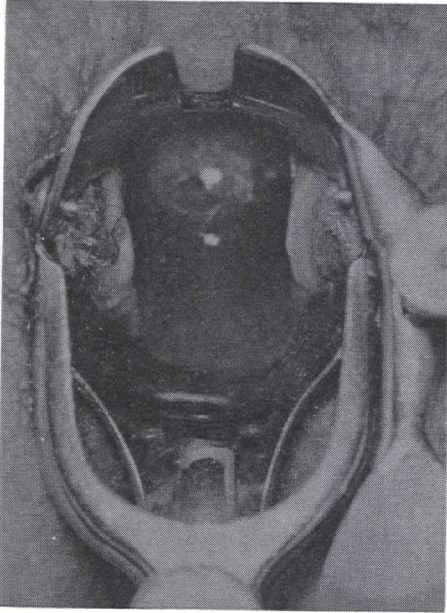


Figure 1

This photograph shows the membranes bulging through the dilated cervical os. Although this photograph does not show it, the infant's extremities could be seen floating through the amniotic fluid.

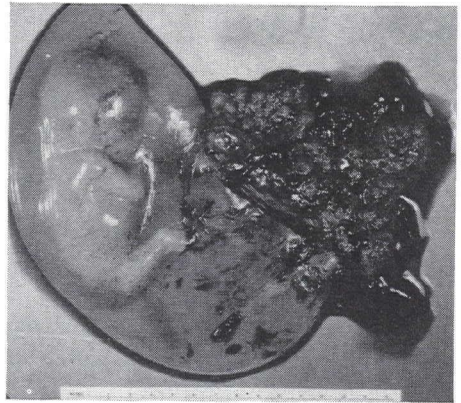


Figure 2

This shows the placenta, intact membranes and fetus after it was expelled from the uterus intact.

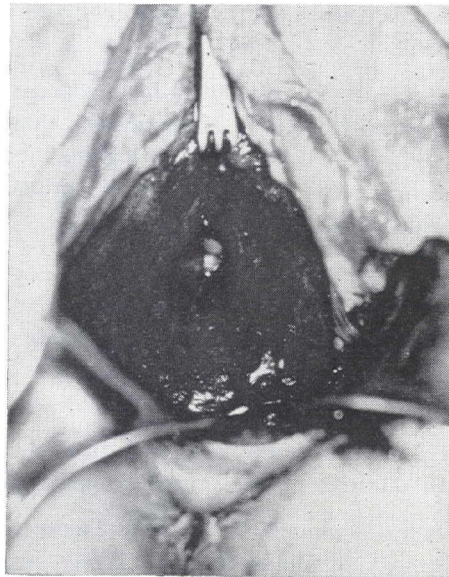


Figure 3

This shows the characteristics of the dilated cervical os.

a mild diabetic and was in good control. Her attention was called to her difficulty when she noted a cystic mass bulging through the introitus. On examination the fetal parts were observed actively moving in the amniotic fluid. The following day, without painful contractions, the amniotic sac, placenta and fetus were expelled intact. Bleeding was minimal. Two days later a dilatation and curettage of the uterus was performed. At this time a futile search was made for the cervical defect alleged to be responsible for this condition. Although no defect was detectable, an attempt was made to reduce the caliber of the cervix by placing plicating sutures around its circumference. She delivered her first surviving infant the following year; it weighed four pounds, one ounce.

Case No. 3

N.M., an 18-year old, unwed gravida 1, para 0, was seen for the first time at 27 weeks of pregnancy. She gave a history of having noticed something bulging at the introitus. There were no uterine contractions nor bleeding. On examination, the membranes protruded through a cervix dilated 3-4 cm. This was closed with a purse string of umbilical tape, and the patient was put at bed rest. Examination five days later revealed the cervix again open 5-6 cm. The cervix was reclosed with umbilical tape. She was discharged on the 9th postoperative day. Two weeks later the patient went into labor and delivered a surviving premature female.

Three other patients had cervical repair: two went into labor shortly thereafter and aborted; the other successfully carried to term. One patient aborted before contemplated surgery was performed.

DISCUSSION

Although our experience with this small group of patients has no statistical significance, it is felt that the results are encouraging. With more experience better results should be anticipated.

Most authors feel incompetency usually occurs secondarily to cervical trauma. In Barter's report¹ on 22 patients, all were multigravida. Numerous patients reported by Shirodkar² were primagravida. It occurred during the first pregnancy in two of our group. Cervical incompetence does occur in the primagravida, and it is our assumption that this is evidence of a congenital weakness.

Surgical correction on this group was attempted during pregnancy. Shirodkar has operated on both pregnant and non-pregnant patients and has achieved slightly better results in the non-pregnant patient. Lash and Lash³ reported a method of closure in the non-pregnant state which involved excising a wedge of tissue at the internal os.

Barter¹ uses the purse string operation similar to that described by Shirodkar and feels that this is the most effective of any procedure yet described.

If the patient reaches the last month of pregnancy, most authors feel that cesarean section should be performed. By doing this, the cervix remains intact and future pregnancies may be possible without additional repair. Others think vaginal delivery with immediate repair of the cervix thereafter is adequate.

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In cases reported by Barter,¹ patients with completely effaced cervixes dilated more than four centimeters invariably had some degree of amnionitis. This was thought to be responsible for uterine irritability eventually causing the patient to abort. Two of the preceding cases fall into this category.

Numerous types of tissue and sutures are being used for closure of the cervix including gut, silk, homologus and heterologus fascia, polyethylene, nylon, dacron and other synthetic products. The synthetic non-absorbable materials are permanent and remain effective if cesarean section is performed.

CONCLUSIONS

The incompetent cervical os appears to be an important cause of mid trimester pregnancy loss. A high index of suspicion based upon history is essential if early diagnosis and prompt effective operative measures are to be accomplished. Although a variety of substances have been used to close the cervix, non-absorbable material appears to be the most satisfactory.

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