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Clinical and Nursing Perspectives on Cervical Incompetence in a Primigravida Mother: A Case - Based Approach

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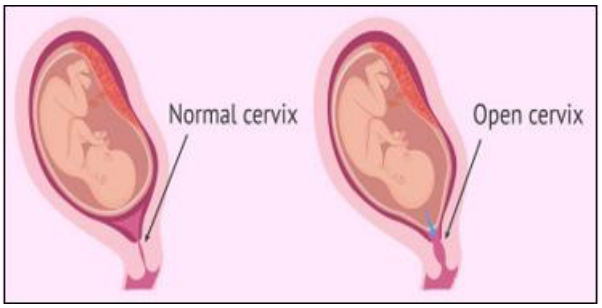
Abstract: ***Cervical Incompetence is a condition in which a pregnant women cervix begin to dilate before her pregnancy has reached term. Cervical incompetence is otherwise known as Cervical insufficiency or premature dilation of the cervix. This paper presents a case study focusing on the causes, clinical manifestation, Diagnosis, management and nursing care of a 32 years Primi mother with Cervical Incompetence. Incompetent cervix occurs in about 1 percent of all pregnancies, and about 20 -30 percent of all second trimester pregnancy loss, and it contributes to preterm deliveries. Several factors for Incompetent cervix are congenital uterine anomalies, previous D&C operations, Multiple pregnancies and prior preterm delivery. Diagnosis often involves history collection, pelvic examination and ultrasound imaging. Management option ranges from medical and operative procedure interventions. Nursing care focus on maternal and fetal monitoring, psychological support and administering medication.***

Keywords: Cervical Insufficiency, Preterm delivery, Uterine anomalies, Multiple pregnancies, Pelvic examination

1. Introduction

Cervical incompetence, also known as Cervical insufficiency or premature dilation of the cervix. Cervical Incompetence will lead to silent painless dilatation of cervix, and loss of the product of conception either as a miscarriage or a preterm premature rupture of membranes or spontaneous preterm birth. Cervical incompetence complicates up to 1% of pregnancies. The incidence varies between 1:100 and 1: 2,000, the large variation being due to differences in populations and reporting bias between practitioners**. Ludmir et. Al 2017.**



Causes and Risk Factors:

1) **Congenital:**
   - Uterine anomalies
   - Congenitally short cervix
2) **Acquired:** D&C Operation
   - Cervical trauma
   - Induced abortion by D&E
   - Vaginal operative delivery through an undilated cervix
   - Cone biopsy
   - Loop excision of the cervix
   - Infection or inflammation
   - Hormonal changes
3) **Others:**
   - Multiple gestations
   - Prior preterm birth

Diagnosis:

a) History:
- History of repetitive painless second trimester abortion
- History of previous difficult childbirth
- Early symptoms of lower abdominal and vaginal fullness
- Recurrent mid trimester painless cervical dilatation
- Escape of amniotic fluid followed by painless expulsion of the product of conception

b) Pelvic Examination

c) Ultrasonography

Management
- Cerclage operation : Shirodkar and McDonald operation
- The patient should be in bed for atleast 2-3 days after the procedure
- Tocolytics agent to avoid uterine irritability
- Weekly injections of 17 ∝- hydroxyprogesterone 500 mg IM

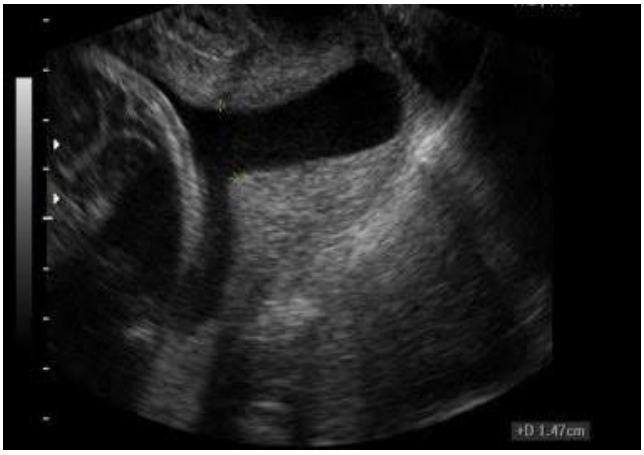
2. Case study of Mrs. X:

Mrs. X, 32 years old Primigravida mother was admitted in KMCH hospital with the history of amenorrhea from last 22 weeks, leaking per vagina for past 4 days, feeling of pressure on vagina for past 2 days and backache for past 2 days. Her Last Menstrual Period is not known following a detailed investigation and ultrasound scan she was diagnosed as Cervical Incompetence. She was found to be conscious and oriented. Her vital signs were as follow:
Temperature: 98.6 F
Pulse : 84 beats/ min
Respiration: 20 breath/ min
Blood pressure: 110/80 mmHg
Spo2: 95%

2.1 Investigation

The Ultrasound scan report was received. The result are as follows:

- Single live intra uterine with Gestation age 22 weeks +4 days
- Fetal heart rate good
- Liquor normal, Amniotic fluid Index: 12.3
- Placenta anterior
- Cephalic presentation
- Short cervix with incompetence (1.38cm)
- Internal OS opened with funneling and very short functional cervix
- Fetal Doppler is normal



2.2 Lab reports

- Haemoglobin: 8.7 gm/dL
- Platelet count: 2.40 Lakhs/cumm
- Blood group: O
- Rh factor: Negative

2.3 Signs and Symptoms

Book picture	Mother picture
Sensation of pelvic pressure	Present
Backache	Present
Abdominal cramps	Not present
Vaginal bleeding or spotting	Present
Changes in vaginal discharge	Present

2.4 Management

- Administered Micronized progesterone 200 mg BD
- Administered T. Calcium 300 mg OD
- Administered T. Folic acid and Vitamin C
- Advised the mother to be in Bed rest
- Advised the mother to avoid straining
- Monitored vital signs
- Monitored fetal heart rate
- Ultrasound done
- Planned to do Cerclage operation

2.5 Complications

- Infection like Chorioamnionitis, urinary tract infection
- Rupture of the membrane
- Abortion / Preterm labour
- Slipping or cutting through the suture
- Cervical laceration during delivery
- Cervical scarring
- Cervical stenosis

2.6 Nursing management

- Advised the mother to take adequate bed rest
- Instruct the mother to avoid straining
- Monitoring the fetal well being
- Monitoring cervical length
- Provide psychological support
- Taught about the warning signs

Nursing Process for mother with Cervical Incompetence:

Assessment:

- Assess cervical length
- Monitor for any bleeding or discharge
- Monitor fetal movement, fetal growth and fetal heart rate
- Monitor vital signs
- Assess for rupture of membrane and preterm labor

Nursing diagnosis:

- Acute pain related to backache as evidenced by verbal report of pain
- Anxiety related to pregnancy outcome as evidenced by frequent seeking of reassurance.
- Impaired physical mobility related to advised bed rest as evidenced by activity restriction
- Risk for preterm labor related to cervical incompetence as evidenced by short cervix.
- Disturbed sleep pattern related to emotional distress
- Knowledge deficit related to the treatment option and potential outcome

Planning:

- Monitor for bleeding or discharge
- Monitor maternal and fetal status
- Provide accurate information regarding treatment plan
- Encourage complete bed rest as indicated
- Provide support and reassurance regarding nursing care
- Provide opportunities for counseling and support
- Promote comfort measures

Implementation:

- Monitor cervical changes regularly
- Teach regarding the signs of rupture of membrane and preterm labor
- Maintain mother on complete bed rest
- Monitor fetal heart rate
- Provide emotional support
- Monitor for any signs of infection
- Prepare mother for cerclage operation
- Provide family education

Evaluation:

- Mother will maintain activity restriction as prescribed
- Mother will maintain emotional well being
- Mother will carry pregnancy till full term
- Mother maintains normal vital signs
- Mother will free from infections
- Demonstrates fetal heart rate

3. Conclusion

Cervical incompetence is the most important cause of recurrent spontaneous abortion and preterm birth. Regular prenatal checkup, early diagnosis and timely medical care helps women with cervical incompetence can improve their chances of carrying a pregnancy to full term. This case study highlights the clinical manifestation, diagnosis, Investigation, management, complication and Nursing care of a 32 years old women with Cervical Incompetence.

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