

# Expectant Management with Bed Rest despite Advanced Cervical Dilatation: a Successful Challenge in Second Trimester

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## Abstract

A 25-year-old woman (gravida 2, abortion 1) was admitted to Ghaem Hospital affiliated to Mashhad University of Medical Sciences at 24<sup>th</sup> week of gestation. Her chief complaint was bloody show. She had a history of incompetent cervix, with premature labor at 22<sup>nd</sup> week of gestation. She was hospitalized with 4 cm dilatation and 50% effacement of cervix at 24<sup>th</sup> week of gestation. Following bed rest and prescribing heparin for prophylaxis against thromboembolism, she delivered at 39<sup>th</sup> week of gestation with good maternal and neonatal outcome. Expectant management with complete bed rest along with anticoagulant therapy is considered to be a safe method for management of cervical incompetence.

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**Keywords** • Cerclage • cervical incompetence • bed rest • term pregnancy

## Introduction

**T**raditionally, the term incompetent cervix describes a discrete obstetrical entity. Classically, it is characterized by painless cervical dilatation in the second trimester, with prolapsed and ballooning of membranes into the vagina, followed by expulsion of an immature fetus. Unless effectively treated, this sequence may be repeated in future pregnancies.

The classic treatment of cervical incompetence is cerclage. The operation is performed to surgically reinforce the weak cervix by some type of purse-string suture. Bleeding, uterine contractions, or ruptured membranes are usually contraindications to cerclage.<sup>1</sup>

The more advanced the pregnancy, the more likely the risk that surgical intervention will stimulate preterm labor or membrane rupture. Some obstetricians usually do not perform cerclage after 23 weeks, although others have done so.<sup>2</sup>

American College of Obstetrics and Gynecology (ACOG) practice bulletin demonstrated that there was no difference between women treated with cerclage, and those who received bed rest with a previous history of cervical insufficiency.<sup>3</sup>

If the clinical indication for cerclage is questionable, these women may be advised to decrease their physical activity and abstain from intercourse. Cervical examinations are performed each week or every 2 weeks to assess cervical effacement and dilatation. Unfortunately, despite such precautions, rapid effacement and dilatation can develop.<sup>3</sup>

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Although there is a modest relationship between maternal physical activity and risk of preterm labor, there is no evidence from properly conducted trials that bed rest offers any benefit for pregnant woman.<sup>4</sup> A study performed by Woodring and coworkers in 2006, has reported that there were no differences between women treated with cerclage and those who received bed rest for cervical insufficiency.<sup>5</sup> The aim of the present study was to report a term pregnancy followed by complete bed rest in a cervical incompetent woman despite advanced cervical dilatation in the second trimester.

### Case Presentation

A 25-year-old woman (gravida 2 abortion 1) was admitted to Ghaem Hospital affiliated to Mashhad University of Medical Sciences with the chief complaint of bloody show, without any contraction and pain. The gestational age was estimated 24 weeks on the basis of the last menstrual period and first trimester ultrasonography. General examination was normal.

Examination with sterile speculum and digital examination revealed that the cervix was dilated about 4cm with 50% effacement and bulging of the membranes into the vagina. She had not fever, evidence of premature rupture of membranes, vaginal bleeding, or uterine contraction.

She had a preterm labor at the 22<sup>nd</sup> week of gestation with premature cervical dilation without contraction in previous pregnancy. At that time she delivered a healthy alive 550 gr neonate who died a few minutes later.

Pregnancy occurred again after 6 months. Because the classic picture of cervical insufficiency (premature cervical dilatation without contraction) was presented at the first gestation, it was suggested that ultrasonography should be performed at 14<sup>th</sup> week of gestation and cerclage should be applied if necessary. Ultrasonography reported the cervical length of 34 mm. Because of her history follow up ultrasonography was recommended, which was performed at the 20<sup>th</sup> week of gestation. It showed that cervical length was 27 mm. It was suggested that she should be hospitalized for cerclage, but she declined. She referred again at the 24<sup>th</sup> week of gestation with unusual vaginal discharge, 4 cm cervical dilatation, 50% effacement, and protrusion of membranes into the vagina. She did not have fever, evidence of premature rupture of membranes, vaginal bleeding, or uterine contractions. She was hospitalized and the plan of treatment was chosen to be close observation for expectant management of incompetent cervix, by complete bed rest, Trendelenburg position, and

prophylactic anticoagulant. Despite treatment and during frequent examinations, her condition did not improve. At the 28<sup>th</sup> week, the cervix had 7cm dilatation and 70% effacement. Intramuscular corticosteroid (Betamethasone 12 mg/day for two doses) was injected for enhancing the fetal pulmonary maturation. Because hospitalization was so long, heparin (Caspian, Tamin, Iran) 5000 IU (intravenously, twice a day) was administered for prevention of thromboembolism. Serial evaluation of C reactive protein (CRP), complete blood count (CBC), prothrombin time (PT), and partial thromboplastin time (PTT) were done twice weekly. Expectant management was continued. Body temperature was regularly checked and recorded in vital sign chart. During hospitalization and evaluation, the patient did not have fever to necessitate antibiotic therapy. Despite dilatation of cervix (7-8 cm) and 70% effacement, the patient left the hospital at the 34<sup>th</sup> week because of long hospitalization. She received recommendation to refer to the hospital if any contraction and rupture of the membranes were occurred. Finally, the labor was initiated by spontaneous true contractions, which successfully led to a normal uneventful vaginal delivery at the 39<sup>th</sup> week of gestation. There was no complication during the delivery and early postpartum period for mother and her neonate. The neonatal weight was 3050 g and Apgar score was 8-9. The mother and neonate were discharged on the next day. Puerperium follow up one week later revealed that they were in good condition and had no problem.

### Discussion

In the present study, we reported a case of successful expectant management in a woman who presented with advanced dilatation of the cervix accompanied by bulging of the membranes into the vagina.

Cervical insufficiency is a very difficult diagnosis to confirm. Management of cervical incompetence in the emergent setting, when documented cervical change on physical examination has already occurred, is more controversial.<sup>5,6</sup>

There is no difference between women with cervical insufficiency treated with cerclage, compared with those who received bed rest. Rust and coworkers reported that bed rest for 3 days or more would increase thromboembolic complications to 16 per 1000 women compared with only 1 per 1000 with normal ambulation.<sup>7</sup> This complication did not occur in our patient because she received prophylaxis with heparin. Caruso and associates reported

their experience with emergency cerclage from 17 to 27 weeks in 23 women, all with dilated cervix and protruding membranes into the vagina. Because only 11 live born infants resulted, they concluded that success was unpredictable.<sup>8</sup>

Althuisius et al. randomly assigned 23 women with cervical incompetence prior to 27th weeks to bed rest, with or without emergency Macdonald cerclage. Delay of delivery was significantly greater in the cerclage group compared with bed rest alone (54 v 27 days).<sup>9</sup>

Daskalakis et al. concluded that emergency cervical cerclage could be accomplished safely in women with dilated cervix and bulging membranes. It could reduce preterm delivery before 32nd week and improve neonatal survival compared with bed rest.<sup>10</sup>

One non-randomized study found fewer birth after 32nd week among 42 women with cervical length less than or equal to 1.5 cm at 23rd week who were treated with cerclage compared with expectant management, but there was no significant difference in neonatal survival.<sup>11</sup>

The incidence of preterm birth and interval from detection of cervical changes to delivery was not different for those treated by cerclage compared with expectant management.<sup>6</sup>

In conclusion, despite overwhelming data regarding to the management of cervical incompetence, there is no consensus on the best treatment option for this condition. Nevertheless in developed stages of cervical dilatation and advanced age of pregnancy, expectant management with bed rest is suitable option and the use of anticoagulant agents and sometimes antibiotics has been suggested. Overall success rate of expectant management is controversial; however favorable outcome may occurs.

**Conflict of Interest:** None declared

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