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Protruding *vs.* visible prolapsed fetal membranes adversely affects the outcome of cervical insufficiency

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Abstract. – OBJECTIVE: This study aimed to determine how prolapsed fetal membranes (PFM) affect perinatal outcomes in cases of cervical insufficiency undergoing emergency cerclage or expectant management.

PATIENTS AND METHODS: This retrospective study analyzed perinatal outcomes in 100 pregnant women with cervical insufficiency, including those with visible PFM at the cervical external os and those with protruding PFM to the vagina. The participants were subjected to either expectant management involving prescribed bedrest or emergency cerclage.

RESULTS: In the study population, 41 (41%) preferred bedrest, while 59 (59%) chose emergency cerclage. Among those managed expectantly, 10 (10%) had visible PFM, and 31 (31%) had protruding PFM. Among those who underwent emergency cerclage, 32 (32%) had visible PFM, and 27 (27%) had protruding PFM. Delivery after 32 weeks of gestation showed similar rates between women with visible and protruding PFM, regardless of the management approach chosen. These rates were significantly higher compared to those with protruding PFM managed with bed rest and emergency cerclage. Prolongation of pregnancy in protruding-cerclage and protruding-bedrest groups was 42.3±34 and 17.9±22 days, respectively.

CONCLUSIONS: Our findings provide support for considering emergency cerclage as a viable option when addressing cases involving a visible form of PFM, although the recommendation is somewhat less robust in instances of protruding PFM. The implementation of an emergency cerclage procedure has the potential to extend the time frame between diagnosis and delivery, enhance neonatal survival rates, and increase the likelihood of births occurring after 28 weeks of gestation. However, it does not seem to significantly affect the rate of births taking place after 32 weeks of gestation. This could potentially lead to complications associated with premature births and extended stays in the postnatal neonatal intensive care unit. Therefore, it is crucial to offer families detailed information regarding the pros and cons of emergency cerclage.

Key Words:
Cervical insufficiency, Prolapsed fetal membranes, Emergency cerclage, Expectant management, Preterm birth.

Introduction

Cervical insufficiency refers to cervical dilation and prolapsed fetal membranes (PFM) that occur during the second trimester but is distinguished by the absence of uterine contractions and vaginal bleeding[1,2]. Cervical insufficiency, which results from structural or functional defects in the cervix, leads to premature pregnancy loss and prevents pregnancies from reaching full term[3]. It contributes significantly to preterm birth and pregnancy loss in the second trimester and is associated with poor perinatal outcomes despite the availability of advanced neonatal care[4]. Consequently, extending the duration of pregnancy is the most important aspect of managing cervical insufficiency. PFM is the finding of advanced cervical insufficiency[5].

Spontaneous abortion, premature rupture of fetal membranes (PROM), intra-amniotic infection, and preterm birth are frequent complications of cervical insufficiency, which is responsible for 0.2% to 7% of all complicated pregnancies[1]. As reported previously, 16% to 20% of all second-trimester fetal losses and 10% of preterm births are attributable to cervical insufficiency[6,7]. In recent studies[8-14], 8-52% of patients with PFM had intra-amniotic infection, and 81% had intra-amniotic inflammation as determined by amniocentesis[10]. Regardless of the result

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of amniotic fluid culture, intra-amniotic inflammation is a risk factor for impending preterm delivery and adverse fetal and neonatal outcomes. In cases of cervical insufficiency with intraamniotic inflammation, there is a 50% risk of preterm delivery occurring within 7 days[9]. Amniotic fluid sludge, hyperechogenic or particulate matter that floats freely[15], is a biomarker of intra-amniotic infection and inflammation as well as an independent risk factor for preterm premature rupture of membranes (PPROM) and spontaneous preterm birth[16,17].

The prevailing scientific consensus suggests that treating intra-amniotic infection or inflammation in the presence of cervical insufficiency is challenging and often ineffective[13], although recent evidence[13,18-20] indicates that both intra-amniotic infection and intra-amniotic inflammation can be successfully treated with antimicrobial agents. Numerous studies[21-25] comparing expectant management to emergency cerclage have demonstrated the superiority of emergency cerclage; however, there is little evidence on whether women with PFM should receive expectant management or cervical cerclage.

Several non-surgical and surgical management modalities have been proposed in the past to treat cervical insufficiency. Some nonsurgical approaches, such as activity restriction, bed rest, and pelvic rest, have not been shown to be effective in the management of cervical insufficiency[1]. Prophylactic or emergency cervical cerclage is applied in cases of cervical insufficiency based on findings such as cervical shortening, dilatation, or clinical history, such as previous cervical surgery[26,27]. Transvaginal and transabdominal cervical cerclage procedures are 2 surgical approaches. Standard transvaginal cerclage techniques include modified versions of the McDonald and Shirodkar procedures providing similar success[28,29].

In the literature, the choice between emergency cerclage and expectant management remains controversial when fetal membranes are found prolapsed in women with cervical insufficiency in the second trimester. Emergency cervical cerclage is primarily indicated when the cervix undergoes premature effacement and/or dilatation before 28 weeks in the absence of labor[4]. PFM is the protrusion of fetal membranes from the internal os into the cervical canal or further into the vagina during speculum and/or ultrasound examination[30]. In obstetric practice, this condition can be defined as a visible type of PFM when the fetal membranes are prolapsed up to the cervical external os and protruding type of PFM when the fetal membranes can extend further into the vagina. Prolapse of fetal membranes from visible to protruding type may implicate both the clinical severity of cervical insufficiency and a poor outcome. Furthermore, it is crucial to take into account the impact of PFM that extends to or beyond the cervical external os when assessing the outcomes of management modalities in order to make informed decisions regarding management options.

In the pertinent literature, the choice between emergency cerclage and expectant management remains controversial when fetal membranes are found prolapsed in women with cervical insufficiency in the second trimester. Furthermore, when evaluating the outcomes of these approaches, it is critical to consider the impact of prolapsed fetal membranes that extend to or beyond the cervical external os in order to make informed decisions about management options. Our aim was to present our experience in a single center with cervical insufficiency and underscore the prognostic importance of the extent of fetal membrane prolapse, especially when it extends to or beyond the cervical external os, in cases undergoing expectant management or emergency cerclage.

Patients and Methods

This retrospective study was conducted between January 2015 and December 2022 at the Perinatology Service of Istanbul Zeynep Kamil Women and Children Diseases Training and Research Hospital. Before commencing the study, informed consent was obtained from all patients following approval from our institution's Human Ethics Committee (Registry No. 50, dated April 05, 2023). This study included only patients treated and followed up in our perinatology service. They had cervical dilatation of less than 4 cm in vaginal examination in the second trimester as well as prolapsed fetal membranes that extend to or beyond the cervical external os. After admittance to the service, they underwent emergency McDonald's cerclage as the cervical cerclage procedure of choice or managed expectantly, with bed rest as part of their care plan when they declined the cerclage procedure.

Inclusion criteria were as follows: singleton pregnancies with 18-25 weeks of gestation, and maternal age between 18 and 45. Exclusion criteria were as follows: history of cervical surgical procedures or recurrent pregnancy loss; presence of PROM or fetal anomaly; presence of uterine contractions or

vaginal bleeding; cervical dilatation >4 cm without uterine contractions; suspected chorioamnionitis (maternal fever >38°C, fetal tachycardia, uterine tenderness, marked leukocytosis >15x10^3/μL, and C-reactive protein >1.5 mg/dL); and additional systemic diseases. In addition, patients who were lost to follow-up after undergoing emergency cerclage or expectant management in our perinatology service were excluded from the study. Patients who were referred to our perinatology service after undergoing emergency cerclage or expectant management were also excluded.

During speculum and/or ultrasound examination, the presence of PFM at the level of the cervical external os was referred to as a "visible type"; after progression from the visible state to protrusion into the vagina beyond the cervical external os, as a "protruding type" (Figures 1 and 2).

The study population was divided into the following four study groups:

The visible-bedrest group, including pregnant women diagnosed with a visible type of PFM, resulted from cervical insufficiency and preferred expectant management (bedrest and clinical follow-up).

The protruding-bedrest group, including pregnant women diagnosed with protruding type of PFM, resulted from cervical insufficiency and preferred expectant management (bedrest and clinical follow-up).

The visible-cerclage group, including pregnant women diagnosed with a visible type of PFM, resulted from cervical insufficiency and preferred emergency cerclage.

The protruding-cerclage group, including pregnant women diagnosed with protruding type of PFM, resulted from cervical insufficiency and preferred emergency cerclage.

After admission to the perinatology service, in all the patients, uterine contractions were monitored; cervico-vaginal cultures were obtained; and tocolytic agents, including indomethacin 25 mg 4x1, p.o, 48 h, with a triple antibiotic regimen consisting of intravenous ceftriaxone 1 gr daily, peroral clarithromycin 500 mg tablet 2 times daily, intravenous metronidazole 500 mg 3 times daily, and intravaginal progesterone 200 mg daily were administered.

The McDonald's cerclage procedure was preferred in our study population. The earliest emergency cerclage procedure was performed 24 hours later after admission. In women who underwent cervical cerclage procedure, if there was no PROM, the cerclage suture was removed at 37 weeks of gestation or during the operation if a cesarean section was to be performed. The prolongation of pregnancy was defined as the number of days from the day of cerclage operation to delivery in the operative management group, and the number of days from admission to delivery in the bed rest group.

All the clinical and surgical data of the participants was collected from their electronic patient records as follows: age, gravidity, body mass index (BMI), gestational age at admission, signs of infection (body temperature, C-reactive protein, leukocyte count, cervicovaginal culture),

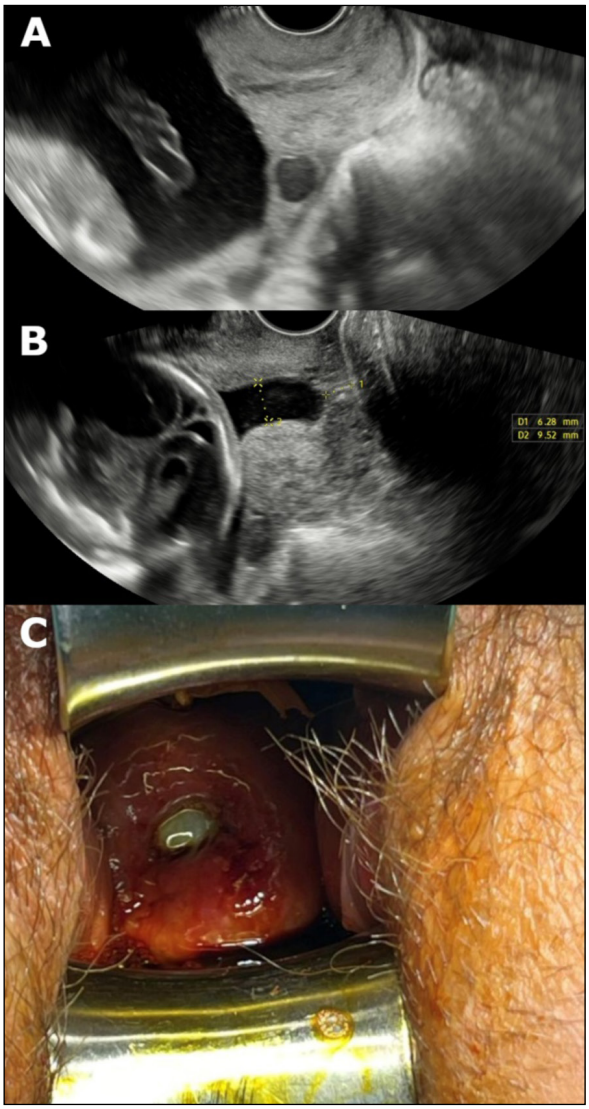

Figure 1. A representative case with visible types of prolapsed fetal membranes **A**, An ultrasound image of the cervical canal mimicking normal cervical length during pressure with a vaginal probe. **B**, An ultrasound image of the same cervical canal after releasing the pressure of the vaginal probe, indicating the importance of the technique of the placement of vaginal probe for an accurate diagnosis of cervical insufficiency. **C**, A vaginal image of visible type of prolapsed fetal membranes from the same case as mentioned above.

the interval between diagnosis and delivery, and obstetric, fetal, and neonatal outcomes.

Statistical Analysis

The study data were analyzed by using IBM SPSS v. 22.0 (IBM Corp., Armonk, NY, USA). For descriptive statistics, mean with standard deviation, median with minimum-maximum or count with percentage were used as appropriate. The Chi-square test was used to compare the differences between categorical variables. The ANOVA with post hoc Tukey test was used for numerical variables with a normal distribution. For variables without a normal distribution, the Kruskal-Wallis ANOVA with post hoc Mann-Whitney test was applied. The significance level was determined at 0.05.

Results

Our study included a total of 100 cases that met the inclusion criteria. Emergency cervical cerclage was applied to 59% (59 cases) of these cases, and expectant management was performed with bed rest in 41% (41 cases). Of the cases treated with emergency cervical cerclage, 32% (32 cases) had visible type PFM and 27% (27 cases) had protruding type PFM. On the other hand, 10% (10 cases) of patients who underwent expectant management with bed rest had visible type PFM, and 31% (31 cases) had protruding type PFM.

Of the cases in the study, 70% (70 cases) delivered vaginally, and 30% (30 cases) delivered by cesarean section.

Table I presents the clinical baseline characteristics of the pregnant women with cervical insufficiency with visible or protruding types of PFM who underwent to the McDonald cervical cerclage procedure or expectant management. The age, BMI, gravidity, gestational age at admission, white blood cell (WBC), and C-reactive protein (CRP) values of the study groups were found to be similar ($p>0.05$). There were no significant differences between the women with protruding and visible types of PFM regarding the birth weight and gestational age at delivery ($p>0.05$); however, the birth weights and gestational ages at delivery in women with protruding types of PFM were significantly lower than those in the women with visible types of PFM ($p<0.05$). The rate of delivery after 28 weeks of gestation in women with a visible type of PFM managed with bed rest and cerclage was similar (80% and 96.9%; $p>0.05$); and their ratios were significantly higher than those in women with protruding type of PFM managed with cerclage (80% and 96.9% *vs.* 40.7%; $p<0.05$); and that ratio was significantly higher than that in women with protruding type of PFM managed with bedrest (40.7% *vs.* 16.1%; $p<0.05$). The rate of delivery after 32 weeks of gestation in women with visible type of PFM managed with bedrest and cerclage was similar (70% and 84.4%; $p>0.05$); and their ratios were significantly higher than those in women with protruding type of PFM managed with bedrest and cerclage (70% and 84.4% *vs.* 3.2% and 22.2%; respectively; $p<0.05$). The rates of delivery after 32 weeks of gestation in women with protruding type of PFM managed with bed rest and cerclage were similar (3.2% and 22.2%; $p>0.05$).

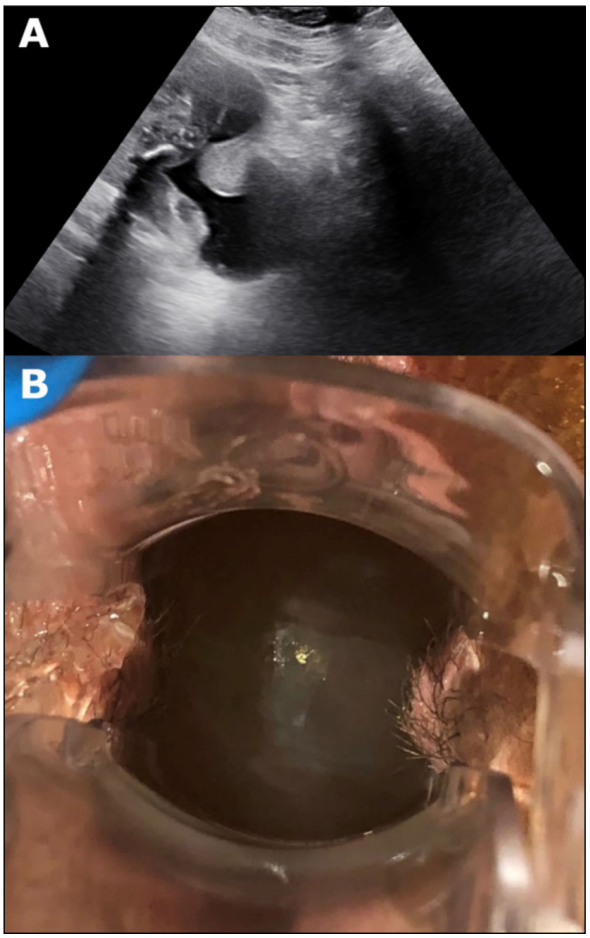

Figure 2. A representative case with protruding type of prolapsed fetal membranes. **A**, An ultrasound image of an open cervical canal and protruding type of prolapsed fetal membranes. **B**, A vaginal image of protruding type of prolapsed fetal membranes from the same case as mentioned above.

Table II shows the neonatal intensive care unit (NICU) admission-related data of the study population.

Table I. Clinical baseline characteristics of the study population.

	Bedrest		Cerclage		
	Visible (n=10)	Protruding (n=31)	Visible (n=32)	Protruding (n=27)	Significance
Age (year)	28±5.8	30.1±6.1	31.2±5.7	31.8±6.1	p=0.438
BMI	26.6 (22.2-42.2)	25.8 (21.6-33.5)	27.1 (23.7-36.1)	26.8 (23.1-32.9)	p=0.448
Gravidity	2 (1-5)	2 (1-8)	2 (1-16)	2 (1-10)	p=0.460
Gestational age at admission	22 (20-24)	22 (20-25)	21 (18-25)	21 (18- 24)	p=0.060
WBC (103/µL)	13 (6-15)	12 (6.6-15)	10.6 (7.5-13)	11 (7.8-13)	p=0.091
CRP (mg/dL)	0.48 (0.2-1.5)	0.7 (0.2-1.5)	0.6 (0.2-1.3)	0.8 (0.3-1.3)	p=0.064
Birth weight (g)	2,330 (680-3,170)[a]	610 (300-2,950)[b]	2,910 (580-4,070)[a]	970 (335-2,880)[b]	p=0.001
Gestational age at delivery (w)	34.5 (25-39)[a]	24 (20-37)[b]	37 (23-39)[a]	27 (21-37)[b]	p=0.001
Delivery after 28 weeks of gestation	8 (80%)[a]	5 (16.1%)[c]	31 (96.9%)[a]	11 (40.7%)[b]	p=0.001
Delivery after 32 weeks of gestation	7 (70%)[a]	1 (3.2%)[b]	27 (84.4%)[a]	6 (22.2%)[b]	p=0.001
Prolongation of pregnancy (days)	72.9±27.5	17.9±22	105.2±26.5	42.3±34	p=0.001

Data are expressed as mean with standard deviation, median with minimum and maximum values, or count (%). Significant differences are presented with letters [a, b, c]. BMI: Body mass index, CRP: C-reactive protein, WBC: White blood cell.

Table II. NICU requirement and stay of study population.

	Bedrest		Cerclage		
	Visible (n=10)	Protruding (n=31)	Visible (n=32)	Protruding (n=27)	Significance
Survived babies	9 (90%)[a]	10 (32.2%)[b]	31 (96.8%)[a]	15 (55.5%)[b]	p=0.01
Requirement of NICU admission*					
Present	7 (77%)	10 (100%)	9 (29%)	12 (80%)	
Absent	2 (23%)	0 (0%)	22 (71%)	3 (20%)	
Lost babies	1 (10%)	21 (67.8%)	1 (3.2%)	12 (44.5%)	
Requirement of NICU admission*					
Present	1 (100%)	9 (42.8%)	1 (100%)	2 (16.6%)	
Absent	0 (0%)	12 (57.2%)	0 (0%)	10 (83.4%)	
NICU stay (day)					
For survived babies	8 (0-21)[a]	48.5 (6-72)[b]	0 (0-45)[a]	28 (0-162)[b]	p=0.001
For lost babies	6	0 (0-27)	1	39 (22-56)	p=0.375

Data are expressed as median with minimum and maximum values and count (%). *Rates of requirements of NICU of the study groups in the survived and lost babies were not compared because the data does not fulfill the minimum conditions of the Chi-square test. Significant differences are presented with [a] and [b] letters. NICU: neonatal intensive care unit.

The ratios of the surviving babies in the women with visible types of PFM were significantly higher than those in the women with protruding types of PFM (p<0.05). Within the surviving babies, the requirement of NICU was meaningfully lower in the visible-cerclage group compared to the other groups. For surviving babies, the NICU stays in the women with protruding types of PFM were significantly higher than those in the women with visible types of PFM (p=0.001). For lost babies, there was no significant difference among the study groups regarding the NICU stay (p>0.05).

Figure 3 presents the interval between diagnosis and delivery for the study population. The intervals between diagnosis and delivery in the women with visible types of PFM were significantly higher than those in the women with protruding types of PFM (p<0.05). The intervals

between diagnosis and delivery of the women with visible and protruding types of PFM were found to be similar (p>0.05).

Discussion

In this study, we evaluated the impact of the visible and protruding types of PFM on the management outcomes of cervical insufficiency undergoing emergency cerclage and expectant management. The current data support that the type of PFM considerably affects the clinical management of mothers and the outcome of their babies. In the presence of the protruding type of PFM, the cerclage procedure increased the ratio of babies born at the gestational age of 28 weeks and above but not at the gestational age of 32 weeks; however, in the presence of a visible type of PFM, the cerclage procedure did not affect meaningfully the gestational age at birth, ratio of live birth, or birth weight, but it decreased the requirement of NICU admission. Considering the interval between diagnosis and delivery, the presence of a visible type of PFM had a positive impact on this interval, but the cerclage procedure did not provide a meaningful effect like the effect of the visible type of PFM, although it also had a positive effect.

Although several studies[21-23,25,31,32] comparing expectant management *vs.* emergency cerclage have shown that the emergency cerclage procedure is superior in cases of cervical insufficiency, there is little evidence on whether PFM should be treated with expectant approach or emergency cerclage. A study[32] found that in cases of visible and protruding types of PFM, the group with protruding type of PFM had a worse pregnancy prognosis. When the pregnancy outcomes of all the cases in our study were evaluated in the light of the literature, the pregnancy prognosis was found to be worse in pregnant women with protruding types of PFM, although emergency cerclage improved the pregnancy prognosis in women with both visible and protruding types of PFM compared to the expectant management.

There have been studies[33-36] that show that in emergency cerclage cases, the live birth rate ranges between 50% and 92.5%. In cases undergoing emergency cerclage to treat a protruding fetal prolapse, our live birth rate was 81.4%; however, considering cases with surviving babies, this rate decreased to 77.9%. Additionally, considering the surviving babies as discharged alive, this rate lowered to 55.5% in the presence of a protruding type of PFM. We believe that the differences in live birth and live discharge rates reported in the literature may be due to the total number of cases with protruding or visible type of PFM in their study populations[33-36]. By performing subgroup analysis in our study, we discovered that the rates of live birth and live discharge were meaningfully higher in cases with visible type of PFM.

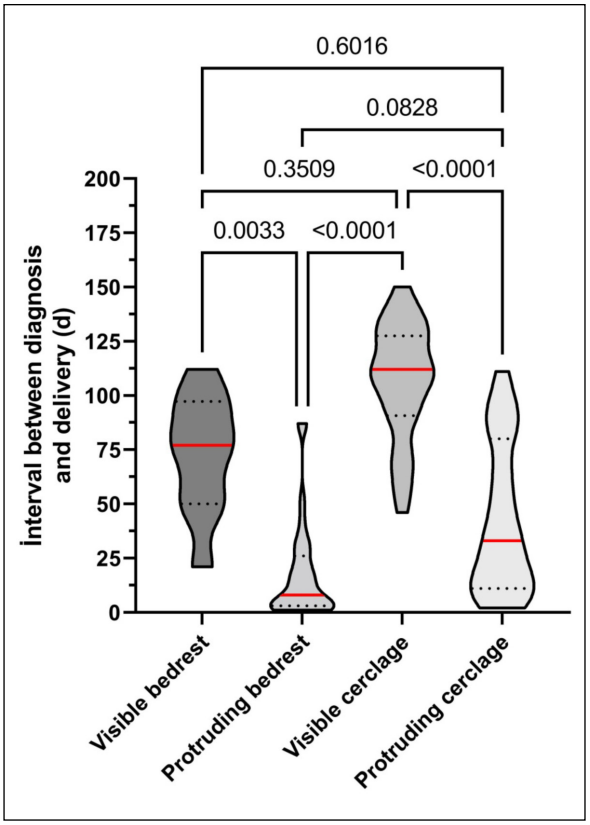

Figure 3. Interval of diagnosis and delivery of the study population. Data are presented as median with ranges.

In the study by Cakiroglu et al[37], it was determined that the amnioreduction procedure did not significantly increase the success of cerclage in emergency cerclage, and it was recommended that the procedure be performed on patients with suspected chorioamnionitis. In our study, amnioreduction was not performed routinely on every patient. In cases deemed appropriate by the physician who performed the emergency cerclage, amnioreduction was performed only after obtaining the patient's informed consent.

Aoki et al[32] reported the outcomes of pregnant women who underwent emergency cerclage *vs.* expectant management for PFM. Of their 35 cases, 15 were managed with emergency cerclage, while the other 20 were followed up expectantly.

In their study, significant prolongation of pregnancy duration was observed in the pregnant women managed with cerclage; however, the prolongation of pregnancy in the pregnant women managed with bed rest was meaningfully shorter in the presence of protruding type of PFM compared to the presence of a visible type of PFM. In their cases managed with cerclage, the presence of a visible or protruding type of PFM did not change the outcome of pregnancies, although the cases managed with a visible type of PFM had increased prolongation of pregnancy.

The timing of emergency cerclage remains debatable, as does the comparison of expectant management *vs.* emergency cerclage in cases of PFM. Aoki et al[32] discovered that the median pregnancy prolongation was 12.5 (2-93) days in cases of PFM and recommended an emergency cerclage procedure in those cases after waiting at least 24 hours. The first emergency cerclage procedure in our study was performed at least 24 hours after the patient was admitted to our perinatology service, as mentioned in that study.

In our study, when the duration of pregnancy prolongation was analyzed according to type of management; in the visible group, we found that the mean pregnancy prolongation was 105.2±26.5 days in patients who underwent cerclage, 72.9±27.5 days in cases with expectant management. Prolongation of pregnancy in protruding-cerclage and protruding-bedrest groups was 42.3±34 and 17.9±22 days, respectively.

In a systemic review by Ehsanipoor et al[38] – in which they compared the effectiveness of cervical cerclage with the experimental approach in second-trimester pregnant cases with cervical dilatation and membrane prolapse by physical examination – they found that neonatal survival increased (71% compared with 43%; RR 1.65, 95% CI 1.19-2.28) and the gestation period was prolonged (mean difference 33.98 days, 95% CI 17.88-50.08).

Shivani et al[34] presented the outcome of their cases of rescue cerclage procedure as a salvage measure for pregnancies that are at high risk of severe preterm delivery or mid-trimester miscarriage. They concluded that pregnancy duration increased after the procedure up to 71.2 days. They suggested that predictors of cerclage success were the absence of chorioamnionitis, cervical dilatation less than 3 cm, and PFM.

In the literature, it is stated that the effectiveness of cervical cerclage decreases in cases where the cervix is dilated more than 4 cm or in cases where the fetal membrane protrudes beyond the cervical external os[39]. Çavuş et al[40] reported that an average of 13.8 weeks passed between the procedure and delivery in cases with cervical dilatation of 4.3 cm in the second trimester and undergoing cervical cerclage, and the total live birth rate was 90%.

Our study included cases with cervical os dilatation of less than 4 cm. However, there is a subset of cases in our study in which the fetal membrane is beyond the cervical external os. The median gestation period in the protruding-cerclage group was 27 (21-37) weeks, and the rate of survived babies was 55.5% (n=15). The median gestation period in the protruding-bedrest group, which did not have cerclage and was followed up with an experimental approach, was 24 (20-37) weeks, and the rate of survived babies was 32.2% (n=10). When we analyzed these findings, we observed that cerclage has a positive effect on gestational age and live birth rates even when the fetal membrane is protruding.

In many studies[41,42], emergency cervical cerclage cases have been compared with bed rest, and it has been found that cerclage causes more effective results than bed rest. In our study, the group with cervical dilatation and the groups with fetal membranes crossing the cervical external os were compared with the groups where bed rest was applied, and similar results were found in the literature. Our study is different from other studies in the literature, in our study, the group with cervical dilatation and the groups in which the fetal membranes cross the cervical external os were essentially compared.

Some studies[37,43,44] have found that prolonged bed rest with a Foley catheter increases the success rate of emergency cerclage significantly[37], while others have found no effect[43], and another study[44] has even linked it to a poor pregnancy prognosis. Prolonged bed rest can lead to a variety of complications, especially thromboembolism[45,46]. In our perinatology service, prolonged bed rest with a Foley catheter was not preferred.

Complications of cervical cerclage procedure include cervical injury, bleeding, bladder injury, preterm labor, pregnancy loss, PROM, and chorioamnionitis[47]. In our study, there were no complications related to the cervical cerclage procedure.

Strengths and Limitations of the Study

Nevertheless, our study had several limitations. This study was conducted at a single institution and was of a retrospective nature. The number of cases in this study may be considered to be relatively low, but when the case numbers of similar

studies in the literature are taken into consideration, we have a remarkable number of cases. In addition, our study possesses several strengths. Firstly, all cases were meticulously assessed by experienced physicians from our perinatology service, ensuring reliable evaluations. Secondly, a standardized management protocol for cervical insufficiency was uniformly implemented across all cases, enhancing the consistency of the study. Lastly, the performance of emergency cerclage was executed by the same dedicated team, minimizing potential variations and confounding factors. The similarity of patients with different PFM types, whether managed with emergency cerclage or not, in terms of variables such as age, BMI, WBC, CRP, and maternal fever, adds to the overall reliability of our results.

Conclusions

According to the results of our study, the type of PFM affects pregnancy outcomes. In the presence of a visible type of PFM, an emergency cerclage can increase the success of management regarding the babies delivered at term and surviving babies. Our findings support the preference of an emergency cerclage in the presence of a visible type of PFM but not so strongly in the presence of a protruding type of PFM. The emergency cerclage can increase the interval between diagnosis and delivery and the rate of surviving babies, and it can increase the rate of birth after 28 weeks of gestation but not the rate of birth after 32 weeks of gestation. This may result in prematurity problems and very long postnatal NICU stays. It is crucial to provide the family with comprehensive information regarding the benefits and potential drawbacks of emergency cerclage.

Conflict of Interest
The authors state no conflict of interest.

Ethics Approval
Ethics committee approval was received for this study from the Istanbul Zeynep Kamil Women and Children Diseases Training and Research Hospital's Human Ethics Committee (Registry No. 50, dated April 05, 2023).

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Availability of Data and Materials
Data are available on request from the authors.

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Aydın Öcal: data collection, manuscript writing, and editing.
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