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CORRELATION OF AMNIOTIC FLUID INDEX VALUES WITH MATERNAL AND PERINATAL OUTCOMES IN PRETERM PREMATURE RUPTURE OF MEMBRANES: A PROSPECTIVE OBSERVATIONAL STUDY.

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ABSTRACT

Background
This study aims to evaluate the relationship between Amniotic Fluid Index (AFI) levels and clinical outcomes in patients with PPROM between 26–36 weeks of gestation.

Methods
A cohort of 100 patients diagnosed with PPROM between 26–36 weeks of gestation was analyzed. Demographic data, gestational age, AFI levels, and clinical outcomes, including chorioamnionitis, neonatal sepsis, respiratory distress syndrome (RDS), and neonatal survival, were recorded. Statistical analysis was conducted to assess the associations between AFI levels and these clinical outcomes.

Results
The study population consisted of 80% patients with gestational ages between 32–36 weeks and 20% between 26–31 weeks. The majority (49%) had an AFI <5. Chorioamnionitis was present in 50%, and neonatal sepsis occurred in 68% of neonates. Neonatal survival was observed in 93% of cases. Gestational age was inversely correlated with AFI ($P < 0.001$), with lower gestational age associated with AFI <5. No significant association was found between AFI and chorioamnionitis or neonatal sepsis. AFI <5 was significantly associated with an increased risk of RDS ($P = 0.003$) and neonatal death ($P = 0.005$), with an odds ratio of 3.78 for RDS in patients with AFI <5. Chorioamnionitis was associated with neonatal sepsis ($P = 0.005$).

Conclusion
Low AFI (<5) in patients with PPROM is significantly associated with adverse neonatal outcomes, including respiratory distress syndrome and neonatal death. Gestational age and AFI levels play crucial roles in predicting neonatal survival and complications. Monitoring AFI can help identify high-risk pregnancies requiring closer observation and management.

Recommendations
Healthcare providers should monitor AFI regularly in PPROM cases, especially with low AFI (<5). Enhanced neonatal surveillance for RDS and other complications is crucial. Early interventions and NICU preparation, particularly for gestational age <32 weeks, are recommended.

Keywords: *Preterm Premature Rupture of Membranes, Amniotic Fluid Index, Chorioamnionitis, Neonatal Sepsis, Respiratory Distress Syndrome, Neonatal Death, Gestational Age, Obstetrics.*
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INTRODUCTION

Preterm Premature Rupture of Membranes (PPROM) is a significant obstetric complication defined as the spontaneous rupture of fetal membranes before 37 weeks of gestation. It contributes to approximately one-third of all preterm births and is associated with elevated risks of neonatal morbidity and mortality [1,2]. The clinical outcomes of pregnancies complicated by PPROM are influenced by multiple factors, including the gestational age at rupture, the presence of intrauterine infection, and the volume of amniotic fluid [3,4].

Among these factors, the Amniotic Fluid Index (AFI)—a sonographic measure of amniotic fluid volume—is

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frequently used to evaluate fetal well-being and predict adverse perinatal outcomes. An AFI less than 5 cm, indicative of oligohydramnios, is commonly associated with fetal distress, pulmonary hypoplasia, and other complications [3,5,6]. In the context of PPROM, low AFI has been linked with an increased risk of neonatal complications such as respiratory distress syndrome (RDS), sepsis, and neonatal death. However, despite growing evidence, the precise relationship between AFI levels and these outcomes remains inadequately defined [6–8].

Gestational age at the time of membrane rupture is another critical determinant of neonatal prognosis. Earlier gestational ages are generally correlated with higher incidences of chorioamnionitis, neonatal sepsis, and long-term respiratory complications [1,2,7]. The potential inverse relationship between gestational age and AFI, and how this interaction affects neonatal and maternal outcomes in PPROM cases, continues to be an area of ongoing investigation [4,5,8]. Further studies are essential to clarify the prognostic value of AFI and gestational age in improving perinatal care for patients with PPROM.

Hence, the present work was undertaken to explore the association between AFI levels and various maternal and neonatal outcomes in patients with PPROM between 26 and 36 weeks of gestation.

METHODOLOGY

Study Design

This study was designed as a prospective cohort observational study conducted to evaluate the correlation between Amniotic Fluid Index (AFI) values and maternal and perinatal outcomes in patients diagnosed with Preterm Premature Rupture of Membranes (PPROM). Participants were enrolled at the time of diagnosis and followed through the course of their pregnancy until delivery and neonatal outcome assessment.

Study Setting

The study was conducted at the Konaseema Institute of Medical Sciences and Research Foundation (KIMS & RF), located in Amalapuram, in the East Godavari district of Andhra Pradesh, India, **over two years** from November 2015 to November 2017. KIMS & RF is a tertiary care teaching hospital with a fully functional Department of Obstetrics and Gynaecology, a well-equipped Neonatal Intensive Care Unit (NICU), and modern diagnostic and imaging facilities. The institute serves as a regional referral center, catering to both urban and rural populations in coastal Andhra Pradesh, making it a suitable setting for evaluating maternal and neonatal outcomes in high-risk pregnancies such as PPROM.

Sample Size

The study included 100 patients diagnosed with PPROM between 26 to 36 weeks of gestation. The study sample size of 100 participants was determined based on the average number of PPROM cases admitted annually at the institute, feasibility of follow-up, and previous similar studies. This size was deemed sufficient to observe meaningful associations between AFI and perinatal outcomes while maintaining adequate statistical power for subgroup analyses.

These patients were carefully selected based on inclusion and exclusion criteria to ensure the validity and applicability of the results.

Inclusion Criteria

- Patients were eligible for inclusion if they met the following criteria:
- Singleton pregnancies confirmed by ultrasound.
- Diagnosis of PPROM, confirmed through a positive fern test (which identifies the presence of amniotic fluid).
- Gestational age between 26 and 36 weeks.

Exclusion Criteria

- Patients were excluded from the study if they met any of the following criteria:
- History of repeated corticosteroid therapy.
- Growth-restricted fetuses.
- Multiple gestations (twins, triplets, etc.).
- Any other specified maternal or fetal conditions that could potentially confound the results or affect outcomes, such as preeclampsia or intrauterine infection.

Data Collection

Gestational Age and Amniotic Fluid Index (AFI) Measurement: Gestational age was confirmed through ultrasound at the time of presentation. The Amniotic Fluid Index (AFI) was calculated using the largest vertical pocket method in each uterine quadrant. This was done to assess the amniotic fluid status and correlate it with maternal and neonatal outcomes.

Management Protocol

Fetal Lung Maturity and Prophylaxis

All patients received a course of betamethasone for fetal lung maturity to reduce the risk of neonatal respiratory distress syndrome (RDS).

Antibiotic Therapy

As part of the standard management protocol, prophylactic antibiotics were administered to prevent infections. If Group B Streptococcus (GBS) was detected through cultures, additional intrapartum antibiotic

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prophylaxis was provided to reduce the risk of neonatal GBS infection.

Maternal and Neonatal Monitoring

- Maternal Outcomes**:** All patients were followed up for the occurrence of maternal complications such as:
- Cesarean delivery**.**
- Postpartum hemorrhage**.**
- Endometritis or any other postpartum infections.
- Neonatal Outcomes**:** Neonatal outcomes were assessed in terms of:
- Neonatal sepsis**.**
- Respiratory distress syndrome (RDS)**.**
- Neonatal death or other significant neonatal morbidities.

Statistical Analysis

Descriptive statistics were used to summarize the demographic and clinical characteristics of the study population. Associations between variables such as gestational age, AFI, and infections with maternal and neonatal outcomes were assessed using Chi-square and Fisher's exact tests. Odds ratios (OR) with 95% confidence intervals were calculated to evaluate the strength of these associations. A p-value <0.05 was considered statistically significant, and all analyses were conducted using appropriate statistical software.

Bias

To minimize potential bias, strict inclusion and exclusion criteria were applied, standardized protocols were followed for diagnosis and management, and outcome assessments were performed uniformly by trained personnel blinded to the amniotic fluid index values where applicable.

Ethical Approval

Ethical approval for the study was obtained from the Institutional Ethics Committee of the Konaseema Institute of Medical Sciences and Research Foundation (IEC/KIMS/012/2015). Informed written consent was obtained from all participants before inclusion in the study. Confidentiality of patient information was strictly maintained throughout the research process. The study was conducted by the principles of the Declaration of Helsinki.

RESULTS

Participants

A total of 120 patients with suspected Preterm Premature Rupture of Membranes (PPROM) between 26 and 36 weeks of gestation were initially assessed for eligibility.
Screened for eligibility: 120
Excluded (n = 20):
8 had multiple gestations
5 had intrauterine growth restriction (IUGR)
4 had a history of corticosteroid therapy
3 had preeclampsia or other confounding maternal conditions
After applying inclusion and exclusion criteria, **100 patients were confirmed eligible and included in the study**.
Completed follow-up: 100
Analyzed for outcomes: 100
No patients were lost to follow-up or withdrew from the study.

The characteristics and outcomes of the study population are summarized in Table 1.

Table 1: Frequency and Percentage of Study Characteristics and Outcomes

Parameter	Level	Number (n)	Percentage (%)
Gestational Age	26–31 weeks	20	20.0
	32–36 weeks	80	80.0
Amniotic Fluid Index (AFI)	<5	49	49.0
	5–8	30	30.0
	>8	21	21.0
Chorioamnionitis	No	50	50.0
	Yes	50	50.0
Neonatal Sepsis	No	32	32.0
	Yes	68	68.0
Neonatal Survival	No	7	7.0
	Yes	93	93.0
Mode of Delivery	LSCS	33	33.0
	Vaginal	67	67.0

Of the total participants, 80% had gestational ages between 32–36 weeks, while 20% had gestational ages between 26–31 weeks. The majority of the patients (49%) had an Amniotic Fluid Index (AFI) of <5, followed by

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30% with an AFI of 5–8 and 21% with an AFI >8. Chorioamnionitis was present in 50% of the cases, while neonatal sepsis was noted in 68% of the neonates. Neonatal survival was observed in 93% of the cases, and the mode of delivery was vaginal in 67% of the patients, with 33% undergoing a lower segment caesarean section (LSCS).

A significant association was found between gestational age and AFI. As seen in Table 2, the majority of patients with a gestational age of 26 weeks had an AFI of <5 (100%).

Table 2: Correlation of Gestational Age and AFI

Gestational Age	AFI <5	AFI 5-8	AFI >8
26 weeks	4 (100%)	0	0
32 weeks	18 (40%)	7 (38.9%)	8 (57.1%)
36 weeks	7 (28.6%)	6 (37.5%)	2 (28.6%)
Total	49	30	21

In contrast, among patients with a gestational age of 36 weeks, the distribution of AFI categories was more balanced, with 28.6% having an AFI of <5, 37.5% with an AFI of 5–8, and 28.6% with an AFI >8. A significant inverse correlation was observed, indicating that lower gestational age is significantly associated with AFI <5 (P < 0.001).

Table 3 shows that there was no significant association between AFI levels and the presence of chorioamnionitis (P = 0.967). The distribution of AFI levels was similar in patients with and without chorioamnionitis, with AFI <5 observed in 46.9% of those without chorioamnionitis and 51.0% of those with chorioamnionitis.

Table 3: Association of AFI and Chorioamnionitis

AFI	Chorioamnionitis Absent	Chorioamnionitis Present
<5	24 (46.9%)	25 (51.0%)
5-8	15 (50.0%)	15 (50.0%)
>8	11 (52.4%)	10 (47.6%)
Total	50 (50.0%)	50 (50.0%)

The association between chorioamnionitis and neonatal sepsis is presented in Table 4. Chorioamnionitis was significantly associated with an increased risk of neonatal sepsis (P = 0.005), as evidenced by an odds ratio (OR) of 2.11. Of the neonates with chorioamnionitis, 55.9% developed neonatal sepsis, compared to only 44.1% in those without chorioamnionitis.

Table 4: Association of Chorioamnionitis with Neonatal Sepsis

Chorioamnionitis	Neonatal Sepsis Absent	Neonatal Sepsis Present
Absent	20 (62.5%)	30 (44.1%)
Present	12 (37.5%)	38 (55.9%)
Total	32 (100%)	68 (100%)

Regarding the relationship between AFI and neonatal sepsis, Table 5 reveals no statistically significant association (P = 0.461). The distribution of AFI categories among neonates with and without sepsis did not differ significantly.

Table 5: Association of AFI with Neonatal Sepsis

AFI	Neonatal Sepsis Absent	Neonatal Sepsis Present
<5	13 (26.5%)	36 (73.5%)
5-8	11 (36.7%)	19 (63.3%)
>8	8 (38.1%)	13 (61.9%)
Total	32 (32.0%)	68 (68.0%)

Table 6 presents the association between AFI and respiratory distress syndrome (RDS). AFI <5 was significantly associated with an increased likelihood of developing RDS (P = 0.003). Specifically, 61.2% of patients with an AFI <5 developed RDS, compared to only 36.7% of those with an AFI of 5–8 and 19.1% of those with an AFI >8. The likelihood of RDS was found to increase by a factor of 3.78 for those with an AFI <5 (P = 0.001).

Table 6: Association of AFI with Respiratory Distress Syndrome (RDS)

AFI	RDS Absent	RDS Present
<5	19 (38.8%)	30 (61.2%)

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5-8	19 (63.3%)	11 (36.7%)
>8	17 (80.9%)	4 (19.1%)
Total	55 (55.0%)	45 (45.0%)

Lastly, Table 7 shows that AFI <5 was significantly associated with neonatal death (P = 0.005). Among patients with an AFI <5, 14.3% experienced neonatal death, while no deaths occurred among those with an AFI of 5–8 or >8.

Table 7: Association of AFI with Neonatal Death

AFI	Neonatal Survival	Neonatal Death
<5	42 (85.7%)	7 (14.3%)
5-8	30 (100%)	0 (0%)
>8	21 (100%)	0 (0%)
Total	93 (93.0%)	7 (7.0%)

DISCUSSION

Preterm Premature Rupture of Membranes (PPROM) is a challenging obstetric condition that can significantly affect maternal and neonatal outcomes. Our study explored the relationship between the Amniotic Fluid Index (AFI) and clinical outcomes in PPROM cases between 26 and 36 weeks of gestation. The results underscore the importance of AFI in predicting neonatal complications, particularly respiratory distress syndrome (RDS) and neonatal death, as well as the role of gestational age in influencing AFI levels.

This study found a significant inverse correlation between gestational age and AFI levels. The majority of patients at 26 weeks had an AFI <5, while at 36 weeks, a more balanced distribution of AFI categories was observed. This trend is consistent with previous studies indicating that as gestational age advances, the volume of amniotic fluid generally increases, which reflects improved amniotic fluid status [10, 12]. The lower AFI observed at earlier gestations (26–31 weeks) aligns with an increased risk of adverse outcomes, as oligohydramnios (AFI <5) has been linked to fetal distress and other complications [14]. This finding supports earlier research highlighting that advancing gestational age tends to improve AFI, and lower AFI values may be a marker of poorer fetal outcomes [9, 11].

Chorioamnionitis is a known complication of PPROM, often leading to maternal and neonatal morbidity, including sepsis and RDS. However, our study did not find a significant association between AFI and chorioamnionitis (P = 0.967), suggesting that while both low AFI and chorioamnionitis are common in PPROM, they may not be directly related. This aligns with findings from previous studies that indicate chorioamnionitis and oligohydramnios may result from different pathophysiological processes [10, 13]. Chorioamnionitis, being primarily an infection-driven complication, may operate through mechanisms distinct from those involved in the development of oligohydramnios. Therefore, our results imply that AFI could be more directly related to the severity of fetal distress rather than to the presence of infection.

Preterm infants face a heightened risk of illness and death, with neonatal sepsis being one of the most critical contributing factors. This study observed a high incidence of neonatal sepsis (68%), but no statistically significant association was found between AFI and neonatal sepsis (P = 0.461). This finding is somewhat unexpected, as oligohydramnios and infection often co-occur in PPROM cases. It is possible that other factors, such as the timing and type of infection, as well as the management of PPROM (e.g., use of prophylactic antibiotics), may play a more significant role in influencing the likelihood of developing neonatal sepsis. The variability in neonatal sepsis outcomes could be attributed to factors beyond AFI, which warrants further investigation to identify additional biomarkers or clinical parameters that may explain this variability [13, 14].

This study revealed a strong association between AFI <5 and the development of RDS. Specifically, 61.2% of patients with AFI <5 developed RDS, compared to 36.7% and 19.1% in the AFI 5–8 and AFI >8 groups, respectively. This association was statistically significant (P = 0.003), with an odds ratio of 3.78 for the likelihood of developing RDS in patients with AFI <5. These findings are consistent with previous literature that has highlighted the negative effects of oligohydramnios on fetal lung development and function. Low AFI is often associated with poor fetal lung maturity and insufficient lung fluid production, predisposing neonates to respiratory complications such as RDS [9, 11]. Thus, monitoring AFI in PPROM cases can offer valuable insights into the risk of RDS and inform clinical decisions such as the administration of corticosteroids to enhance fetal lung maturity.

This study also identified a significant association between low AFI and neonatal death. Neonates with an AFI <5 had a mortality rate of 14.3%, whereas no deaths occurred in the AFI 5–8 or AFI >8 groups. This association (P = 0.005) emphasizes the severity of oligohydramnios in PPROM, with low AFI acting as a marker for poor fetal outcomes. The increased risk of neonatal death in the presence of PPROM and low AFI may result from several factors, including poor fetal growth, lung immaturity, and heightened vulnerability to

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infection. These findings are consistent with previous studies that have reported higher rates of neonatal death in cases of oligohydramnios in PPROM pregnancies [14]. Clinicians should closely monitor pregnancies with PPROM and low AFI to optimize neonatal care and improve survival outcomes [10, 11].

GENERALIZABILITY

The findings of this study are likely generalizable to similar tertiary care settings in low- and middle-income countries, particularly in South Asia, where PPROM remains a common obstetric challenge. The inclusion of a diverse patient population from both rural and urban backgrounds enhances external validity. However, as the study was conducted in a single tertiary care center with specific protocols and facilities, the results may not fully reflect outcomes in primary care or resource-limited settings. Multi-center studies with larger and more heterogeneous populations are warranted to further validate the applicability of these findings.

CONCLUSION

This study highlights the importance of monitoring the Amniotic Fluid Index (AFI) in patients with Preterm Premature Rupture of Membranes (PPROM), as low AFI (<5) is significantly associated with adverse neonatal outcomes, including respiratory distress syndrome and neonatal death. The inverse relationship between gestational age and AFI highlights the need for careful surveillance of pregnancies with earlier PPROM. AFI can serve as a useful tool in predicting neonatal complications and guiding clinical decision-making, including the administration of corticosteroids for fetal lung maturity and timely delivery. Further research is needed to better understand the complex relationship between AFI, gestational age, and other clinical variables to optimize care for patients with PPROM.

LIMITATIONS AND FUTURE DIRECTIONS

While this study provides important insights into the role of AFI in predicting neonatal outcomes in PPROM, there are several limitations that must be acknowledged. First, the study was conducted at a single institution, which may limit the generalizability of the results. Second, the sample size was relatively small, which could impact the power to detect subtle associations between AFI and certain outcomes, such as neonatal sepsis. Additionally, we did not assess the severity of chorioamnionitis or other factors such as the duration of PPROM, which could influence neonatal outcomes. Further multi-center studies with larger sample sizes and a more comprehensive assessment of maternal and neonatal factors are needed to confirm these findings and explore the mechanisms underlying the observed associations.

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LIST OF ABBREVIATIONS

PPROM - Preterm Premature Rupture of Membranes
AFI - Amniotic Fluid Index
RDS- Respiratory Distress Syndrome
NICU- Neonatal Intensive Care Unit
LSCS- Lower Segment Caesarean Section
IUGR- Intrauterine Growth Restriction
GBS- Group B Streptococcus
SD- Standard Deviation
OR- Odds Ratio
CI- Confidence Interval

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The study had no funding.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

VP- Concept and design of the study, results interpretation, review of literature, and preparation of the first draft of the manuscript. Statistical analysis and interpretation, revision of manuscript. VAH- Concept and design of the study, results interpretation, review of literature, and preparing the first draft of the manuscript, revision of the manuscript. MV- Concept and design of the study, results interpretation, review of literature, and preparing the first draft of the manuscript. Statistical analysis and interpretation, revision of manuscript.

DATA AVAILABILITY

Data is Available

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REFERENCES

1. Pylypjuk C, Majeau L. Perinatal Outcomes and Influence of Amniotic Fluid Volume Following Previable, Preterm Prelabor Rupture of Membranes (pPPROM): A Historical Cohort Study. Int J Womens Health. 2021 Jun 28;13:627-637. https://doi.org/10.2147/IJWH.S303120 PMid:34234574 PMCid: PMC8254139

2. Wahabi H, Elmorshedy H, Bakhsh H, Ahmed S, AlSubki RE, Aburasyin AS, et al. Predictors and outcomes of premature rupture of membranes among pregnant women admitted to a teaching Hospital in Saudi Arabia: a cohort study. BMC Pregnancy Childbirth. 2024 Dec 23;24(1):850. doi: 10.1186/s12884-024-07020-x. PMID: 39716141; PMCID: PMC11667829.

3. Bhagat M, Chawla I. Correlation of amniotic fluid index with perinatal outcome. J Obstet Gynaecol India. 2014 Feb;64(1):32-5. https://doi.org/10.1007/s13224-013-0467-2 PMid:24587604 PMCid:PMC3931909

4. Vyas A, Prasanna G, Dash S, Rath S. Comparison of Perinatal and Maternal Outcomes in Borderline Versus Normal Amniotic Fluid Index in a Tertiary Care Center in Odisha: An Observational Prospective Study. Cureus. 2021 Nov 24;13(11):e19876. doi: 10.7759/cureus.19876. PMID: 34963870; PMCID: PMC8709811.

5.Lee YJ, Kim SC, Joo JK, Lee DH, Kim KH, Lee KS. Amniotic fluid index, single deepest pocket, and transvaginal cervical length: Parameters of predictive delivery latency in preterm premature rupture of membranes. Taiwan J Obstet Gynecol. 2018 Jun;57(3):374-378. doi: 10.1016/j.tjog.2018.04.008. PMID: 29880168.

6.Piazze J, Anceschi MM, Cerekja A, Brunelli R, Meloni P, Marzano S, et al. Validity of amniotic fluid index in preterm rupture of membranes. J Perinat Med. 2007;35(5):394-8. doi: 10.1515/JPM.2007.077. PMID: 17624934.

7. Storness-Bliss C, Metcalfe A, Simrose R, Wilson RD, Cooper SL. Correlation of residual amniotic fluid and perinatal outcomes in periviable preterm premature rupture of membranes. J Obstet Gynaecol Can. 2012 Feb;34(2):154-158. https://doi.org/10.1016/S1701-2163(16)35158-1 PMid:22340064

8. Tavassoli F, Ghasemi M, Mohamadzade A, Sharifian J. Survey of pregnancy outcome in preterm premature rupture of membranes with amniotic fluid index <5 and ≥ 5. Oman Med J. 2010 Apr;25(2):118-23. doi: 10.5001/omj.2010.32. PMID: 22125713; PMCID: PMC3215489.

9. Dayal S, Jenkins SM, Hong PL. Preterm and Term Prelabor Rupture of Membranes (PPROM and PROM) [Updated 2024 Oct 31]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK532888/

10.Gunay T, Erdem G, Bilir RA, Hocaoglu M, Ozdamar O, Turgut A. The association of the amniotic fluid index (AFI) with perinatal fetal and maternal outcomes in pregnancies complicated by preterm premature rupture of membranes (PPROM). Ginekol Pol. 2020;91(8):465-472. https://doi.org/10.5603/GP.2020.0069 PMid:32902844

11. Borna S, Borna H, Khazardoost S, Hantoushzadeh S. Perinatal outcome in preterm premature rupture of membranes with Amniotic fluid index < 5 (AFI < 5). BMC Pregnancy Childbirth. 2004 Aug 4;4(1):15. doi: 10.1186/1471-2393-4-15. PMID: 15291965; PMCID: PMC512289.

12.Endale T, Fentahun N, Gemada D, Hussen MA. Maternal and fetal outcomes in term premature rupture of the membrane. World J Emerg Med. 2016;7(2):147-52. https://doi.org/10.5847/wjem.j.1920-8642.2016.02.011 PMid:27313811 PMCid: PMC4905872

13. Mehra S, Amon E, Hopkins S, Gavard JA, Shyken J. Transvaginal cervical length and amniotic fluid index: can it predict delivery latency following preterm premature rupture of membranes? Am J Obstet Gynecol. 2015;212(3):400.e1-400.e9. https://doi.org/10.1016/j.ajog.2015.01.022 PMid:25613399

14.Kacerovsky M, Musilova I, Andrys C, Drahosova M, Hornychova H, Rezac A, et al. Oligohydramnios in

women with preterm prelabor rupture of membranes and adverse pregnancy and neonatal outcomes. PLoS One. 2014 Aug 29;9(8):e105882. https://doi.org/10.1371/journal.pone.0105882 PMid:25171293 PMCid: PMC4149497

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