**Objective**
Prespepsin is an inflammatory marker released from monocytes and macrophages as an acute reaction to microbial infection. We hypothesized that it may be useful in pregnancies with preterm premature rupture of the membranes (PPROM) for early diagnosis of subclinical chorioamnionitis.

**Methods**
Fifty-three singleton pregnancies between 23-28 weeks of gestation diagnosed with PPROM were prospectively included in the study. Venous blood samples were collected at admission, at the 48th hour of admission, and at the time of delivery to determine presepsin and C-reactive protein (CRP) levels and white blood cell (WBC) counts. Chorioamnionitis was diagnosed by microscopic examination of placenta and cords.

**Results**
Of the 53 PPROM cases included in the study, 41(77.4%) had histologically confirmed chorioamnionitis. Neonatal sepsis developed in 24(45.3%) of the newborns. The median presepsin level at admission was 135.0 pg/mL for pregnancies with subclinical chorioamnionitis and 113.5 pg/mL for pregnancies without chorioamnionitis (p = 0.573). There was also no significant difference between subclinic chorioamnionitis (+) and (-) cases in terms presepsin levels at the 48th hour and at delivery. However, chorioamnionitis (+) cases showed significant decrease in both presepsin level and WBC count at the 48th hour after administration of antibiotics, which increased significantly at delivery (p<0.001 and p=0.011, respectively).

**Conclusion**
The striking fluctuations in presepsin level after the diagnosis of PPROM can be used to predict subclinical chorioamnionitis and for determining the optimal timing of delivery before the clinical signs of chorioamnionitis are established. However, presepsin level itself was neither diagnostic nor prognostic for neonatal sepsis.