Objectives
This study was aimed to predict histologic chorioamnionitis (HCA) based on laboratory results and ultrasonographic parameters in women diagnosed with preterm premature rupture of membranes.

Methods
This retrospective case-control study included women with PPROM from 23+0 to 32+6 weeks of gestation, who delivered at Korea University Hospital in Ansan from Jan. 2006 to Dec. 2017. The maternal characteristics, neonatal characteristics and neonatal outcome variables were compared between HCA group and control group. Diagnosis of HCA was made using histologic examination of placentas. Women with multiple gestations, diagnosed fetal congenital anomalies and absence of pathologic results of placenta were excluded in this study.

Results
A total of seventy eight women with PPROM were analyzed. There were no significant differences between two groups in latency, time from rupture of membrane to delivery, oligohydramnios (AFI<5), diagnosed IIOC and cervical length. Incidence of the clinical chorioamnionitis was significantly higher in HCA (p-value<0.001). Neonatal outcomes (5min Apgar score less than 7, ventilator care, sepsis, NEC, RDS, PVL, BPD, IVH grade 3 to 4 and neonatal death) demonstrated no significant difference between two groups. There were significant differences in CRP, WBC and neutrophil% between two groups.

Conclusion
Higher neutrophil count and CRP at admission in women with PPROM are associated with HCA, but no significant increased neonatal morbidity and mortality were observed in HCA. In conclusion, this findings should stimulate further research to elucidate relationship between neonatal outcomes and HCA caused by noninfectious inflammation.