Preterm birth: prediction by alkaline Phosphatase, ferritin and alpha-fetoprotein in amniotic fluid
Dabiri A, Jamshidi M, Esmaeilzadeh A, Faghizadeh S
Zanjan University of Medical Sciences, Zanjan, Iran

Objective
Preterm labor is a common health problem with has very serious adverse effects and burden of cost. Early diagnosis of preterm labor may be useful for prevention of its adverse effects. The aim of the present study was to evaluate levels of alkaline phosphatase (ALP), ferritin, and alpha-fetoprotein (AFP) in amniotic fluid in the second trimester of pregnant women for predicting preterm labor.

Methods
In this descriptive analytical study, pregnant women referring to Perinatology clinic of Zanjan who were candidates for amniocentesis in the second were studied. 40 pregnant women with term labor and 20 pregnant women with preterm labor entered the study. The levels of ALP, ferritin, and ALF of amniotic fluid in the second trimester of pregnant women in both groups were measured.

Results
The levels of ALP, ferritin, and AFP of amniotic fluid in the groups with term labor were 27.35±13.01 (11-77) IU/ml, 33.01±18.96 (4.7-74.5) ng/ml, and 382.14±96.44 (112-556.80) ng/ml respectively, and 74.45±15.51 (38-104) IU/ml, 71.47±31.70 (34.20-160) ng/ml, and 547.47±122.83 (340-773.40) ng/ml respectively in the group with preterm labor above. The levels of both three mentioned biomarkers were significantly higher in amniotic fluid of the group with preterm labor compared to the group with term labor (P=0.001).

Conclusion
Based on the findings of the present study, elevated levels of ALP, ferritin, and AFP are associated with preterm labor and preterm labor incidence could be predicted by measuring of amniotic levels these biomarkers. We propose to do similar studies with considering both amniotic and serum levels of these biomarkers.