

## Maternal serum PAPP-A levels in intrahepatic cholestasis of pregnancy

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### Objective

To evaluate the first trimester maternal serum PAPP-A levels in singleton pregnancies with intrahepatic cholestasis of pregnancy (ICP).

### Methods

Women with singleton pregnancies diagnosed with ICP and delivered at Başkent University Ankara and İstanbul Hospitals between 2007-2013 inclusive were determined from the Delivery Records. Patients' files were reviewed; maternal age, gravidity, parity and 1st trimester maternal serum PAPP-A levels were recorded. The study was designed as a case-control study; maternal age, gravidity and parity were matched with 2 control singleton pregnancies without ICP randomly selected for each case with ICP. Mann Whitney-U test was used for the statistical analysis and p value was considered to be statistically significant if  $<0.05$ .

### Results

During the study period, 53 ICP cases with singleton pregnancies had delivered at Başkent University Ankara and İstanbul Hospitals. The incidence of ICP was 1.15% (53/4609) among the singleton deliveries. In the case (n=53) and control (n=106) groups mean (median) 1st trimester PAPP-A MoM levels were  $0.97 \pm 0.48$  (0.93) and  $1.12 \pm 0.44$  (1.11) respectively (p=0.084).

### Conclusion

ICP may be associated with some adverse obstetric outcomes such as preterm birth, meconium staining amniotic fluid, fetal distress, even stillbirths as well as preeclampsia and gestational diabetes. PAPP-A is a protease expressed in a variety of cell types, including the trophoblasts; its levels are reported to be lower in pregnancies complicated with preeclampsia and intrauterine growth restriction and preterm delivery. The relation between 1st trimester PAPP-A levels and ICP was evaluated in the current study, to our knowledge for the first time in the literature. ICP group had lower PAPP-A levels but the difference was not statistically significant. Further studies with larger study groups may give more accurate results.

**Table 1.** 1<sup>st</sup> trimester PAPP-A levels in singleton pregnancies with intrahepatic cholestasis compared to the maternal age, gravidity and parity matched control group.

1 <sup>st</sup> trimester PAPP-A	Cholestasis group	Control group
	n=53	n=106
PAPP-A MoM (mean)	$0.97 \pm 0.48$	$1.12 \pm 0.44$
PAPP-A MoM (median)	0.93	1.11

Mann Whitney-U test: p=0.084