INTRODUCTION:
The purpose of this study, was to follow up fetal biometric measurements and doppler flows (bilateral uterine artery and umbilical artery) in second and third trimester ultrasound investigations and to diagnose growth restriction or other obstetrical complications as early as possible and to compare obstetrical results between the groups.

MATERIALS&METHODS:
This prospective cohort study includes 175 nulliparous women between 11 to 14 gestational weeks. All pregnant had double tests at 11 to 14 gestational weeks, bilateral uterine color pulsed wave doppler ultrasound investigations at 15 to 18 gestational weeks, umbilical artery color pulsed wave doppler ultrasound investigations and fetal biometric measurements at 20 to 24 and 28 to 32 gestational weeks. All pregnant have been followed up to delivery and the information about preterm labor, preterm (<37 weeks) and premature delivery (<32 weeks), premature rupture of the membranes, gestational hypertension or preeclampsia, gestational diabetes mellitus, ablacio plasenta, birth weights, requirement for newborn intensive care unit, fetal or neonatal death has been noted.

RESULTS:
Among 175 pregnant, 17 of them have been excluded because of insufficient follow-up and the remaining 158 patients constituted the study group. According to first trimester PAPP-A levels ROC curve was generated. By using a cut-off point of 0.72 MoM, we detected the obstetrical complications, with the sensitivity of 82.4 % and specificity of 29.8 %. Between 15 to 18 gestational weeks, bilateral uterine artery PI mean value was calculated and then ROC curve was generated. With a cut-off point of 1.08, sensitivity was 58.8 % and specificity was 48.2 % for obstetrical complications. Umbilical artery PI values was measured like uterine artery and ROC curve was generated. Whith a cut-off point of 1.135 for umbilical artery PI at 20 to 24 gestational weeks, we detected obstetrical complications, with sensitivity of 70.6 % and specificity of 48.9 %. For 28 to 32 gestational weeks the cut-off point was 0.85. Regarding this value sensitivity and specificity were 82.4 % and 22.7 %, respectively. Patients whose fetal biometric measurement shows retardation more than a week at 20 to 24 and 28 to 32 weeks of gestation and/or whose fetal calculated HC/AC ratios more than 1.15 and 1.10 at 20 to 24 and 28 to 32 weeks of gestation respectively have been accepted as risky group for early onset growth restriction. When we compared this risky group and normal pregnant, we found statistically significant difference about pregnancy outcomes. (p value= 0.045) Similarly, mean birth weights were different, too. (p value= 0.011)

CONCLUSION:
Although there was no significant relationship between obstetric results and mean uterine artery PI; low PI levels was found in association with higher birth weight. This demonstrates that higher the uterine artery PI levels can result in lower the birth weights. Similar results were found in RI, too. According to our results, in the light of HC/AC ratios and fetal biometric measurements, it is possible to obtain expressive evidences about obstetrical results and birth weight.

REFERENCES: