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# Early amniocentesis versus transabdominal CVS for prenatal diagnosis

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## Objective

To evaluate the association between early amniocentesis (EA) and transabdominal chorionic villus sampling (TA-CVS) between 10 to 14 weeks gestation and complications between sampling and delivery.

## Methods

This study comprises data from 298 (48, 8%) women allocated to early transabdominal CVS (TA-CVS) and 313 (51, 2%) women allocated to early amniocentesis(EA) between 10 to 14 weeks gestation in a 5th year period (2013-20176). The indications for early prenatal diagnosis were: The adjusted risk for Downs syndrome of > 1: 250, advanced maternal age of 37 years, previous history of a chromosomal genetic abnormality, early ultrasonic markers of a chromosomal abnormality. Amniotic fluid (3-5ml) obtained by amniocentesis, using 21-22 G needle, for TA-CVS using 20 G needle, all method with continuous ultrasound guidance. Transabdominal colour Doppler was used to investigate the uteroplacental and fetal vessels in all patients between 10 and 14 weeks of gestation, before and after EA and TA-CVS.

## Results

PCR genomic DNA for 24 hour and cell culture for seven days were successful in 311 of 313 (99, 3%)cases of early amniocentesis. Over night method for three days and culture method for seven days were successful in 296 of 298(99, 3%) cases of TA-CVS. Spontaneous abortion after early TA-CVS occurred in one case (0, 3%) out of 313 patients. The spontaneous abortion rate was lower among cases allocated to TA-CVS after 12 weeks of gestation. 15 (5, 05) cases showed chromosomal aberrations. Spontaneous abortion after EA occurred in one case out of 313(0, 3%) cases. 13 case (4, 1%)showed chromosomal aberration. Mosaicisms was detected in two cases of TA-CVS(0, 7%) but none of the EA. The incidence of talipes in EA group was 0, 7%, occurred in 2 patients., and none occurred in TA-CVS group. The incidence of haemangiomas was 0. 7% and occurred in two cases who had TA-CVS group, but in none in EA group. There was no difference in the incidence of rupture of membrans, preterm delivery, neonatal respiratory distress and anomalies in the newborn infants between two groups. There were no significant differences in mean pulsatility indices in uteroplacental and foetal vessels before and after TA-CVS and EA procedures. Data for 5 trisomic foetuses (3 trisomy 21, 1 trisomy 18, 1 trisomy 13) indicate an abnormally increased umbilical and ductus venosus PI and abnormally decreased middle cerebral artery PI.

## Conclusion

TA- CVS and EA are both safe methods for prenatal diagnosis of high-risk pregnancies and does not significantly affect the pregnancy. EA between 10 to 14 weeks was not associated with a greater risk of spontaneous miscarriage, neonatal talipes or fetal anomalies compared to TA-CVS.