Objective
Coarctation of the aorta (CoA) is one of the most common cardiac abnormalities. However, prenatal diagnosis by ultrasound is difficult and high false negative and false positive rates are reported. The objective of this study is to assess the ability of different parameters to identify fetuses with coarctation of aorta who would require special neonatal care.

Methods
A retrospective analysis of all fetuses with a prenatal suspicion of a CoA at a single tertiary referral centre between 2001 and 2014 was performed. Prenatal assessment was performed by experienced prenatal sonographers and pediatric cardiologists. Ultrasound data, prenatal, obstetric and paediatric records were analysed. Fetuses with other cardiac pathology besides CoA or lost to follow up were excluded. Z-scores of left ventricle (LV), right ventricle (RV), aortic- and pulmonary valve diameters and isthmus were calculated.

Results
The study included 65 cases with 138 scans. In 27 (42%) patients other abnormalities were present (IUGR (n=5), single umbilical artery (n=3), renal (n=6), central nervous system (n=5), multiple structural anomalies (n=6) or other (n=2)). CoA was confirmed in 20 neonates (30%). Median gestational age at diagnosis was 32 weeks (range 21-35). The area under the curve (AUC) of the Z-scores were: LV diameter 0.597 (CI 0.425 – 0.768), RV diameter 0.587 (CI 0.415 – 0.759), aortic valve diameter 0.671 (CI 0.511 – 0.831), pulmonary valve diameter 0.545 (CI 0.374-0.717) and isthmus diameter 0.728 (CI 0.576-0.881).

Conclusion
The prenatal detection of CoA is poor in our population. The best prenatal ultrasound parameter is the diameter of the aortic isthmus.