Challenges in antenatal diagnosis of pulmonary atresia
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Objective
Prenatal detection of CHD is still a challenge, with a 57% detection rate only in major centres. Isolated defects are detected less frequently. Pulmonary atresia is a very rare condition and can be diagnosed antenatally approximately in 30% cases. Challenges in Antenatal detection of pulmonary atresia are due to progression of lesions and only half of the cases are identified prior to 24 weeks. Pulmonary stenosis has the potential to progress to pulmonary atresia. It is therefore not uncommon that severe pulmonary stenosis can share most of the morphological features of atresia, whilst retaining a much higher proportion of normal dimensions of the right ventricle with a lesser degree of valvular narrowing. Another diagnostic challenge specific to pulmonary atresia with a ventricular septal defect is that the four-chamber view of the heart is typically normal. This observation suggests that the current screening program of a single scan at 18 to 20 weeks of gestation may not be adequate to identify all cases of cardiac defects.

Methods
This 28 year old woman, who was fit and well, non-smoker, gravida 3 with two normal children and had a low screening risk with an uneventful antenatal period. Her anomaly scan at 20+2 weeks demonstrated no obvious fetal abnormality but wanted a second opinion on the right ventricle and right outflow tract. A consultant scan at 22 weeks confirmed a normal four chamber and 3-vessel view with right and left outflow tracts seen. A large atrial septal defect (ASD) was diagnosed at this time. Fetal monitoring continued with a scan at 29 and 32 weeks with the paediatric consultant in attendance, which demonstrated normal growth, liquor and dopplers and the persistence of the ASD. The couple were counseled regarding the implications of the lesion by the paediatrician. A decision was made for local delivery with paediatric review after birth.

Results
The baby was born vaginally, an echo was performed on day 1 of life and confirmed pulmonary atresia. The infant was transferred to a tertiary unit where he had balloon dilatation and returned home a few weeks later.

Conclusion
In this case even if antenatal diagnosis was made surgical intervention was necessary with the same course apart from emergency retrieval. The only difference between outcomes in infants diagnosed antenatally versus postnatally, is larger doses of prostaglandins are required to maintain patency of the ductus arteriosus until a corrective procedure can be performed. The greatest impact of antenatal diagnosis is on the termination rate, which reflects the most severe end of the spectrum of lesions.