Fetal Cardiology in 2015: What Can We Achieve?

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Cardiac malformations are one of the commonest types of congenital abnormality and remain a major cause of morbidity and mortality in infancy. It is possible to detect most forms of major congenital heart disease (CHD), as well as some of the minor forms, during fetal life. Detection in early pregnancy allows parental choice and allows time for parents to be prepared for the likely course of events after delivery. Also, confirming normality of the fetal heart can also be of great benefit in providing reassurance to parents at high risk of having a child with CHD.

Antenatal screening for CHD was introduced 30 years ago and since then there have been many changes, though prenatal diagnosis of CHD remains a challenge. Improvement in prenatal screening/detection

Obstetric screening for CHD, using initially the four chamber view and then views of the outflow tracts and more lately the 3 vessel view, plays a vital role in prenatal detection. There is still significant variation in the effectiveness of screening but overall this has been improving.

Changes in spectrum of abnormality detected
The severe end of the spectrum of CHD is usually detected before birth but more types of lesion are increasingly detected.

Advancement in precision of fetal cardiac diagnosis
Improvement in ultrasound imaging has allowed more detailed and precise diagnosis and more accurate prediction of postnatal management and outcome.

Newer techniques to help refine diagnosis
Use of techniques such as 3D/4D echocardiography, speckle tracking and MRI can help to refine fetal diagnosis. Management options following prenatal diagnosis vary in different centres and countries. This depends on local laws and customs as well as paediatric cardiology and surgical facilities available for the care of the affected baby. The outcome will also be affected by these factors.