

An Sonographer led fetal echocardiography - An effective strategy for low risk cases

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Introduction

Detailed fetal echocardiography is performed for familial, maternal and fetal indications. Pregnancies in which there is a relatively low risk of fetal cardiac abnormality include those in which there is a first degree relative with congenital heart disease (CHD), exposure to known cardiac teratogens or the existence of a variety of maternal illnesses. Higher risk pregnancies include the mothers in whom there is a suspicion of abnormality during an obstetric scan, raised nuchal thickness, monozygotic twins or suspected arrhythmias.

In our centre, after triage, low risk referrals are assessed and scanned in a dedicated clinic solely by an experienced cardiac sonographer.

Method

This audit was performed to assess the safety and effectiveness of the service described. Between October 2013 and September 2016 fetal echocardiography referrals were triaged by the fetal cardiac team and classed as low or higher risk according to agreed local and national guidelines. Indications for referral, an assessment of scan quality and presence of normality (or otherwise) were prospectively recorded. A pre-written information sheet was given to mothers whose fetus had a normal heart following assessment by the sonographer. When an abnormality was demonstrated, a fetal cardiologist and nurse specialist were available in the hospital for counselling.

Results

Over a 3 year period, 500 ladies were scanned in this sonographer led clinic. Of the 500 pregnancies, 431 were referred for family history of CHD (Figure 1). 7 of the 500 fetuses were found to have CHD and were then reviewed by a fetal cardiologist immediately following the scan. In addition, 2 unexpected intrauterine deaths were detected (Figure 2). There were no known incidences of false negative or false positive diagnosis of CHD made.

Figure 1: Reason for referral for low risk fetal echo

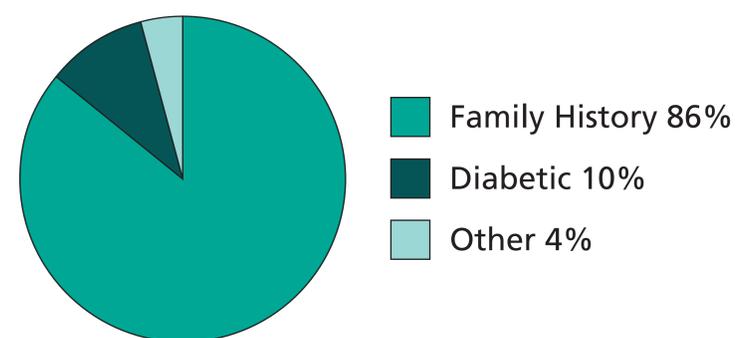
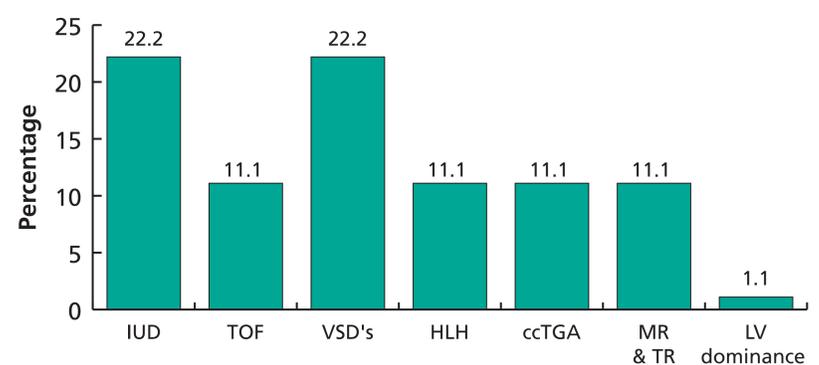


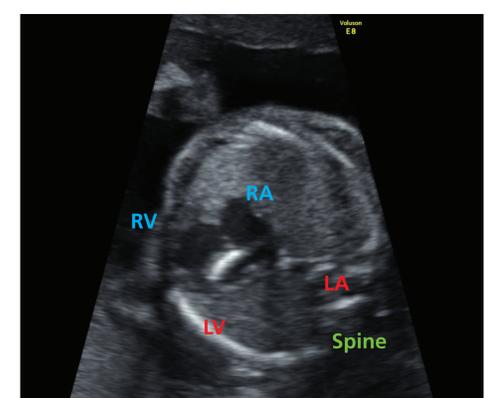
Figure 2: Abnormal findings



Normal 4 chamber view



Abnormal 4 chamber view showing hypoplastic left heart syndrome



Conclusion

The sonographer led low risk fetal echocardiography clinic with an experienced sonographer, after appropriate referral triage, detected pathology in 1.4 % of the cases.

All of these parents received a Consultant consultation and counselling at the time of their appointment. The clinic has provided reassurance for the remaining parents where the fetal echo was normal. This service development has proved both cost-effective and time efficient, enabling additional resources to be targeted to higher risk cases.