Objective
To describe the prenatal management and outcome of a series of 26 cases of fetal tachyarrhythmia.

Methods
The prenatal diagnosis, management and outcomes of fetal supraventricular tachycardia (SVT) and atrial flutter in structurally normal hearts was retrospectively reviewed from Jan 2007 to March 2019 in a fetal tertiary referral centre. Main outcome criteria included control of the arrhythmia, gestational age at first presentation, time taken to restore normal sinus rhythm (NSR), drug therapy used, presence or absence of hydrops and intrauterine death. Anti-arrhythmic drugs used were flecanide, digoxin, sotolol and amiodarone (oral and intra-amniotic in 1 case).

Results
There were 23 cases of SVT (including one case of SVT in one dichorionic twin). The median gestational age at presentation was 29 weeks (range 21-36). There were 3 cases of atrial flutter. 19% (n=5) of both groups had hydrops and 23% (n=6) had an isolated fluid collection of either a mild pericardial effusion or a small rim of ascites. Of the SVT cohort 74% received monotherapy in the form of oral flecanide. There were 2 intrauterine deaths in this group; postmortem investigation in the first case revealed that the death was likely to be genetic in origin and unrelated to the SVT and occurred when NSR had been restored. The second case had poor biventricular function and the fetus did not respond to 9 days of flecanide. 1 case of SVT achieved NSR for a while but reverted to SVT just prior to delivery and required neonatal cardioversion. The remaining 20 cases achieved NSR and the median time taken to respond was 7 days (range 1 to 56) with resolution of any hydrops or isolated fluid collections in all cases. Five cases of SVT required oral digoxin as second line treatment. Four of the these cases had either poor biventricular function or some evidence of hydrops from mild to moderate. One of these cases that was unresponsive to flecanide as a first line treatment and required oral sotolol, oral digoxin, oral amiodarone and finally intra-amniotic amiodarone. NSR was restored after 56 days. Hydrops resolved prior to delivery and ventricular function improved. Of the three cases of atrial flutter 2 did not achieve NSR prior to delivery and had neonatal cardioversion.

Conclusion
Early diagnosis and prompt treatment of both fetal SVT and atrial flutter is essential to optimise outcome and prevent cardiac decompensation and in utero fetal death.