Does Prenatal Diagnosis of Transposition of the Great Arteries Improve Survival?

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INTRODUCTION
Current evidence suggests prenatal diagnosis of transposition of the great arteries (TGA) improves pre-operative clinical condition and long term outcome. In 2008 the UK National Institute of Clinical Excellence (NICE) published guidelines advising that ventricular outflow tracts should be assessed as part of routine antenatal assessment. This was consolidated in the 2010 Fetal Anomaly Screening Programme guidelines. Our aim was to establish whether local improvement in prenatal diagnosis of TGA improved early survival rates.

METHOD
All patients undergoing the arterial switch procedure (ASO) for simple TGA between 2001 and 2014 were identified. Patients with septal defects were included but those with additional congenital heart disease were excluded. A retrospective review of patient records was performed. Data was gathered regarding demographics, diagnosis, admission to the cardiac centre, hospital stay and long term follow up. The primary outcome was survival 30 days post ASO. A comparison was undertaken between neonates diagnosed postnatally and prenatally. Secondary outcomes included clinical status at time of admission to cardiac centre, timing of septostomy, length of stay and long term comorbidity.

RESULTS
228 patients with simple TGA +/- septal defects who had the arterial switch procedure were identified during the 14 year period. The rate of prenatal diagnosis has been consistently increasing from 11% prior to 2008 to greater than 60% in the last 2 years. 168 patients were diagnosed postnatally, 60 were diagnosed prenatally. The majority of prenatal diagnoses were made from 2008 onwards (49/60). Overall survival across both patient groups was 95% at 30 days. Survival was 97% in the postnatally diagnosed group (163/168) versus 93.3% in the prenatally diagnosed group (56/60). Average length of stay was 1 day shorter in prenatally diagnosed neonates (19 versus 20 days).

CONCLUSIONS
Regionally our rate of prenatal diagnosis is improving. However this does not currently seem to be reflected in an increased rate of survival. A larger subgroup of prenatally diagnosed neonates would be required to establish significance. We anticipate that further improvement in both prenatal diagnosis and expectant management at time of delivery will begin to demonstrate the benefits of prenatal diagnosis and its impact on survival.