Abstracts

2 NEO-AORTIC DILATATION AND REGURGITATION DURING PREGNANCY FOLLOWING THE ROSS PROCEDURE: AN EVALUATION OF CARDIAC MAGNETIC RESONANCE (CMR) DATA

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Background The neo-aorta produced by the pulmonary autograft following the Ross procedure has excellent long-term outcomes, with an increasing number of women undergoing pregnancy following Ross. Cardiac Magnetic Resonance (CMR) has been used to evaluate the risk of progression of neo-aortic dilatation and dissection that may arise as a result of the additional cardiovascular risks posed during pregnancy. Although there have been reported cases of dilatation and dissection, there is little research.

Aims To evaluate the extent of neo-aortic dilatation, and associated aortic regurgitation, during pregnancy following the Ross procedure.

Methods A retrospective cohort of women were identified who had undergone a Ross procedure after 1985, who in January 2019 were aged >16, in an adult congenital cardiology and joint cardiac-obstetric centre. CMR data was used to evaluate neo-aortic root dimensions and aortic regurgitation extent pre-, during and post-pregnancy. A control group of case-matched patients who had undergone the Ross procedure, but not pregnancy, was used for comparison.

Results In all, 8 women carried a total of 15 pregnancies to term. In only one pregnancy did the mother experience serious cardiac decompenation, necessitating early delivery and associated with subaortic stenosis, mild aortic root dilatation and increasing aortic regurgitation. Four women (50%) experienced an element of aortic root dilatation during pregnancy, with an average increase between them of 0.525 cm (range +0.4 to +0.7). In no case did this lead to progressive dilatation or dissection. When compared to the control group, pregnancy was found to carry an increased risk of neo-aortic dilatation (Mean aortic root change for group: +0.26 cm (SD 0.30) pregnancy vs. +0.16 cm (SD 0.27) control). There was a high rate of initial mild aortic regurgitation in both groups. In three women their extent of regurgitation increased post-pregnancy, correlated with increased parity and aortic dilatation. In the control group only two women experienced increased regurgitation, only one of which was associated with neo-aortic dilatation.

Conclusions Pregnancy appears generally well tolerated by women following the Ross Procedure, although there is an increased risk of neo-aortic dilatation and corresponding increase in aortic regurgitation compared to the control group.

3 TRAIN THE AI LIKE A HUMAN OBSERVER: DEEP LEARNING WITH VISUALISATION AND GUIDANCE ON ATTENTION IN CARDIAC T1 MAPPING

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Background Artificial intelligence (AI) is increasingly used in diagnostic imaging. Deep convolutional neural networks (CNN)