ASSISTED CONCEPTION AND THE RISK OF CONGENITAL HEART DISEASE: A CASE CONTROL STUDY

ACC Moderated Poster Contributions
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Background: Epidemiological studies suggest a higher prevalence of congenital malformations in children conceived through assisted reproductive technologies (ART). There are few studies that address congenital heart disease (CHD) specifically and most have examined data from registries. We examined the relationship between CHD and assisted conception using data collected in a specialist paediatric cardiac service in the UK.

Methods: Between April 2010 and July 2011 the parents of children attending paediatric cardiology clinics at the Royal Brompton Hospital, London were invited to complete a brief questionnaire which enquired into the nature of their child’s conception, the route for their (original) referral and a number of potential confounding exposures. We analysed this information using a case-control approach. ‘Cases’ were defined as children diagnosed with one or more carefully defined CHDs and ‘controls’ as those who were discovered not to have CHD. Assisted conception technologies included any of the following procedures/treatments: ovulation induction, in vitro fertilisation, intra-cytoplasmic sperm injection or intrauterine insemination.

Results: Of the 2922 eligible patients, 2308 (79%) were recruited and completed a questionnaire. Of 898 newly referred patients, half were cases (n=405, 45%). The overall prevalence of assisted conception was 5.6% (n=50). Logistic regression analysis demonstrated a non significant increase in the crude odds for the use of ART (1.24, 95% CI 0.67, 2.28) in this group. After adjustment for gestation, multiparity and maternal age the estimated odds ratio was reduced (OR 1.01, 95% CI 0.52, 1.98, p=0.973).

Conclusions: We found no increased risk of CHD in those conceived by assisted procedures; further analysis of individual subgroups of CHD and different methods of conception is required.