Maternal and fetal outcomes in pregnant woman with surgically repaired congenital heart disease: retrospective Japanese multi-center study

Background
Although dramatic success of cardiac surgery leading to increased numbers of survivors with congenital heart disease (CHD), the epidemiological data has not been well-studied in Japan.

Methods and results
We retrospectively reviewed the maternal and fetal data in woman with corrected CHD from 2009 through 2014. Overall, 131 women with repaired CHD, including 70 acyanotic CHD (e.g., ventricular septal defect) and 61 cyanotic CHD (e.g., tetralogy of Fallot), were enrolled. There were 269 gestations, including 31 miscarriages (11%) and 10 elective abortions (4%). Repaired CHD with history of cyanosis group (CyCHD) had higher prevalence of caesarean delivery compared with repaired CHD without history of cyanosis group (AcyCHD) (52 (51%) vs 24 (19%), p=0.0001, respectively), whereas the prevalence of miscarriage and abortion were not statistically different between the 2 groups. There were 228 offspring in 269 gestations (CyCHD; 102, AcyCHD; 126). The most prevalent neonatal complications were premature birth (23, 10%), which was more frequent in CyCHD than those in AcyCHD (16 (15.7%) vs 7 (5.6%), p=0.015 respectively). In addition, 5 maternal cardiac complications during delivery were noted only in cyanotic CHD group (8%), but none of women died for the complications.

Conclusions
Although most women with CHD successfully delivered after surgically repaired, there was a high prevalence of caesarean delivery in woman with repaired cyanotic CHD. In addition, history of cyanotic CHD may be a potential risk for having preterm delivery.