



# ACC.14

TCT@ACC-12 | Innovation in Intervention

A497

JACC April 1, 2014

Volume 63, Issue 12



## Congenital Heart Disease

### NATIONAL VARIATION IN PRENATAL DIAGNOSIS OF CONGENITAL HEART DISEASE BY STATE AND LESION TYPE: AN ANALYSIS OF THE SOCIETY OF THORACIC SURGEONS CONGENITAL HEART SURGERY (STS-CHS) DATABASE

Oral Contributions

Room 144 B

Sunday, March 30, 2014, 11:30 p.m.-11:45 p.m.

Session Title: Congenital Heart Disease Year in Review

Abstract Category: 10. Congenital Heart Disease: Pediatric

Presentation Number: 922-06

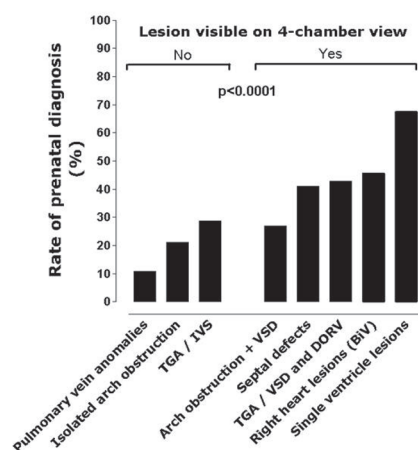
Authors: *Michael D. Quartermain, Sara Pasquali, Kevin Hill, David Goldberg, James Huhta, Jeffrey Jacobs, Marshall Jacobs, Sung Hee Kim, Ross Ungerleider, Wake Forest University School of Medicine, Winston-Salem, NC, USA*

**Background:** Prenatal diagnosis allows for improved peri-operative outcomes of fetuses with certain forms of congenital heart disease (CHD). Variability in prenatal diagnosis has been demonstrated in other countries, leading to efforts to improve access to care and fetal imaging protocols, but has not been examined across the US. We evaluated national variation in prenatal diagnosis across geographic region and lesion type in neonates with CHD undergoing heart surgery.

**Methods:** Neonates ( $\leq 30$ d) undergoing heart surgery in the STS-CHS Database (2006-12) were included. Centers with  $>15\%$  missing prenatal diagnosis data were excluded. Rates of prenatal diagnosis were compared across geographic location of residence and lesion type using the Chi-square test.

**Results:** Overall, 18,631 neonates from 44 states operated on at 91 US centers were included. Prenatal diagnosis occurred in 42% and increased every year from 33% (2006) to 49% (2012). There was significant geographic variation in rates of prenatal diagnosis (range 23%-61% across states,  $p < 0.001$ ). Significant variability by lesion type was also observed (figure); with higher rates for lesions identifiable on 4-chamber view versus those requiring outflow tract visualization (39% versus 20%,  $p < 0.0001$ ).

**Conclusions:** Rates of prenatal CHD diagnosis in the US remain low, with significant variability between states and across lesion type. Further studies are needed to better define reasons for this variation and the potential impact on patient outcomes.



Isolated arch obstruction includes coarctation, arch hypoplasia and interrupted aortic arch without VSD, TGA/IVS = Transposition of the great arteries with intact ventricular septum defect, VSD = Ventricular septal defect, DORV = Double-outlet right ventricle, Single ventricle lesions includes hypoplastic left heart syndrome.