Conclusions: Upon 8 years of follow-up, valsartan treatment was not associated with improved long-term risk for events. However, in symptomatic patients treated with valsartan long-term risk for events was significantly reduced. Therefore, early initiation of such treatment is recommended in these patients.

968 | BEDSIDE
Prevalence of bicuspid aortic valve and associated aortopathy in 7000 newborns estimated by systematic echocardiographic screening
A.S. Sillesen1, C.A. Phil1, K. Juul2, F.S. Joergensen3, D.L. Jeppesen4, M. Hedegaard5, H.J. Zingenberg1, K. Sundberg2, P.S. Olsen3, L. Soendergaard2, H. Boyd4, N. Velstrup2, K. Iversen1, A. Axelson1, H. Bundgaard1 on behalf of Copenhagen Baby Heart, 1Herlev Hospital - Copenhagen University Hospital, Copenhagen, Denmark; 2Righospitalet Copenhagen University Hospital, Copenhagen, Denmark; 3Hvidovre University Hospital, Copenhagen, Denmark; 4Statens Serum Institut, Copenhagen, Denmark
Background: Bicuspid aortic valve (BAV) is the most common congenital heart defect with large necropsy studies estimating a prevalence of 0.5–2.5%. Since most cases are asymptomatic in childhood, BAV without stenosis or regurgitation is rarely diagnosed in children, but often by chance later in life. However, complications are common in adulthood, and a considerable proportion of patients with BAV will eventually require intervention. Patients diagnosed before BAV-related complications arise, currently have the same life expectancy as the general population.

Large-scale echocardiographic screening for BAV has not previously been conducted. The Baby Heart study (CBH) is an ongoing, multicentre, prospective, population study of infants born in the three largest maternity wards in Denmark in the period April 2016 to March 2018. The CBH study combines early echocardiography, ECG and blood sampling with information on pregnancy, delivery, and the parents’ lifestyle, socioeconomic status and health.

Purpose: To determine the prevalence of BAV and associated aortopathy, as well as to classify BAV subtypes in a population-based sample of newborns.

Methods: Transthoracic echocardiography is performed in all newborns included in CBH within 14 days of birth. Newborns diagnosed with BAV are referred to paediatric cardiac outpatient clinic for long-term follow-up.

Preliminary results: As of 12 February 2017, 7,110 newborns had been enrolled in CBH and had undergone cardiac examination. Upon initial examination, sonographers requested a further review of the echocardiographies in 1,928 (27%) newborns; review by a paediatric cardiologist confirmed an abnormality in 353 (5%). BAV was diagnosed in 33 infants, corresponding to 4.64 cases per 1,000 live-births. Of the 33 newborns with BAV, 30 had a type 1 (26%) with left-right raphe and 4 (12%) with right-non-coronary raphe and 3 (9%) had a type 0 (Sievers & Schmidtke’s definition). Two (6%) infants with BAV also had aortic ectasia (Z-score > −3), and a third underwent surgical repair for a severe coarctation of the aorta. Mean sinotubular junction Z-score in infants with BAV was −0.99 ± 1.58 according to Boston Children’s Hospital Z-score system. The majority were males (n=21 (64%)), with a male-female ratio of 1.75:1. Mean (SD) gestational age at birth and birth weight of infants with BAV were 28±12 days and 3,472±536 g, respectively. Compared with infants without BAV born in the same period, there was no significant difference in birth weight or gestational age. Nine parents of BAV infants (27%) reported a family history of hereditary heart disease.

Conclusion: Preliminary data from echocardiographic screening for BAV in a population-based sample of 7,110 newborns revealed a BAV prevalence of 0.46% and a male-female ratio of 1.75:1, suggesting a lower prevalence of BAV than previously reported. Associated aortopathy detectable already in infancy was not negligible (9%).

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