end-diastolic LV diameter ($r = -0.677$, $P = 0.0041$), to end-diastolic LV volume ($r = -0.629$, $P = 0.0076$) and to end-systolic LV volume ($r = -0.616$, $P = 0.0090$) in healthy children.

Conclusion.— Speckle tracking is a promising technology to assess myocardial strain. However, feasibility and reproducibility of new systolic parameters such as twist are low. Conversely, TMAD using speckle-tracking technology seems an easy measurable marker with an excellent feasibility and reproducibility to assess the mitral annular displacement. It seems independent of body surface area and well correlated with stroke volume. The advantage of TMAD over tissue Doppler imaging relies on the peculiarities of speckle tracking technology. Speckle tracking is angle independent and thereby permits the measurement of strain vectors that are not parallel to the ultrasound beam. TMAD is an interesting tool in children. Its accuracy to estimate systolic function needs to be further investigated in children.

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46 Identification of major coronary artery anomalies in a pediatric and adult population: A prospective echocardiographic study
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Objectives.— We sought to describe our experiment with major coronary anomalies (MCA) diagnosed in trans thoracic echocardiographic (TTE) in a large adult and pediatric population.

Background.— MCA may have serious clinical consequences. No echocardiographic study has identified prospectively all potentially serious coronary anomalies in a general adult and pediatric population.

Patients.— From June 2008 to January 2012, a systematic search for major coronary anomalies was conducted in children and adults patients, coming for a TTE.

Results.— Three thousand five hundred and two patients (84% adults and 16% children) received a TTE. Fourteen coronary anomalies (0.39%) were diagnosed: nine anomalous origins of coronary artery from the opposite sinus with inter arterial course, one abnormal left coronary artery from pulmonary artery, three single coronary arteries, one coronary fistula. Cardiac symptoms initiated investigation in seven patients. Five patients underwent specific surgery: two coronary reimplantations, three coronary bypass grafting. Ten patients had already received at least one TTE without the anomalous coronary artery being either diagnosed or suspected.

Conclusions.— MCA is a rare condition which can be identified through an accurate exploration of coronary anatomy by TTE. The search for potentially lethal congenital coronary anomalies should be included a standard echocardiographic examination.

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47 Bicuspid aortic valve — the importance of monitoring children
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Bicuspid aortic valve is a common congenital heart defect. Aim.— Point out the importance of bicuspid aortic valve in children, and the importance of monitoring these children.

Patients.— We examined by echocardiography 1830 children: 2 months of age to 18 years old — 978 (53.44%) boys and 852 (46.56%) girls for heart murmur or symptoms of the cardiovascular system. Study was carried out using Siemens Sonoline G50. Measurements are performed in 2D and M-mode. Echocardiographic diagnosis of these defects is based on the existence of two aortic cusps, instead of normal three, often asymmetrical, with one line of coaptation consisting of both commissure.

Results.— Among the children examined, 15 (0.82%) children were with bicuspid aortic valve, 11 (1.12%) boys and four (0.47%) girls. Frequency was higher in boys.

There were two boys with bicuspid aortic valve, one with aortic stenosis, two with aortic insufficiency, six children (five boys and one girl) with aortic stenosis and regurgitation. Four children (one boy and three girls) had aortic coarctation.

Monitoring the children in 4-year period, three children deteriorated aortic stenosis. In one boy there was no aortic regurgitation, but after a year, it appeared. Enlarged area of the sinus Valsalva was registered in one boy.

Conclusion.— It is important to monitor children with bicuspid aortic valves, because these children are at increased risk of complications including aortic valvular disease, ascending aorta aneurysm and aortic dissection. Patients with bicuspid aortic valve are also at higher risk of aortic coarctation.

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