Pediatric Transthoracic Cardiac Vector Flow Imaging - A Preliminary Pictorial Study

Purpose
Conventional pediatric echocardiography is crucial for diagnosing congenital heart disease (CHD), but the technique is impaired by angle dependency. Vector flow imaging (VFI) is an angle-independent noninvasive ultrasound alternative for blood flow assessment and can assess complex flow patterns not visible on conventional Doppler ultrasound. Materials and Methods 12 healthy newborns and 3 infants with CHD were examined with transthoracic cardiac VFI using a conventional ultrasound scanner and a linear array. Results VFI examinations revealed common cardiac flow patterns among the healthy newborns, and flow changes among the infants with CHD not previously reported with conventional echocardiography. Conclusion For assessment of cardiac flow in the normal and diseased pediatric heart, VFI may provide additional information compared to conventional echocardiography and become a useful diagnostic tool.

General information
Publication status: Published
Organisations: Department of Electrical Engineering, Center for Fast Ultrasound Imaging, Biomedical Engineering, Department of Health Technology, University of Copenhagen
Pages: E20-E26
Publication date: 2019
Peer-reviewed: Yes

Publication information
Journal: Ultrasound International Open
Volume: 5
Issue number: 1
ISSN (Print): 2199-7152
Ratings:
Web of Science (2019): Indexed yes
Original language: English
Keywords: Vector Flow Imaging, Transverse Oscillation, Transthoracic echocardiography, Cardiac flow, Congenital heart disease
Electronic versions:
a_0656_5430.pdf
DOIs: 10.1055/a-0656-5430
Source: Findit
Source-ID: 2442622421
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review