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.

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