

Decreased tricuspid annular peak systolic velocity (S') and N-terminal B-type natriuretic pro-peptide values in children after tetralogy of Fallot repair

Zmniejszenie maksymalnej prędkości skurczowej pierścienia trójdzielnego i stężenia NT-proBNP u dzieci po operacji tetralogii Fallota

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We read with interest the article "Relationship between N-terminal B-type natriuretic pro-peptide and right ventricular performance assessed by tissue Doppler imaging and speckle tracking echocardiography in children after surgical repair of tetralogy of Fallot" from Pietrzak and Werner [1]. This is an interesting manuscript describing the long-term effects of heart surgery on remodelling of the right ventricle (RV) in children with tetralogy of Fallot (TOF). The authors found a reduced tricuspid annular peak systolic velocity (S') in their TOF patients compared to age-related normal values and also found a negative correlation between S' values and N-terminal B-type natriuretic pro-peptide (NT-proBNP) values. We completely agree with Pietrzak and Werner's [1] suggestion that the decrease of RV systolic performance and increase of NT-proBNP values after surgical correction of TOF may be due to reduced systolic reserve associated with myocardial overstretching. Recently, Klitsie et al. [2] stated that only tissue Doppler parameters, such as S' , are able to detect impairment of systolic RV function, and it has been shown that following surgery for TOF the S' worsens continuously over time in paediatric as well as in adolescent TOF patients [3]. These conclusions highlight the recent findings by Pietrzak and Werner [1]. For the convenience of the audience of "Kardiologia Polska" we would like to add that our group has published normal S' values with Z scores for healthy paediatric patients [4]. Given these available normal values, authors will be able to compare the measured S' values with respective age-related normal Z-score values. Pietrzak and

Werner [1] support the notion that the RV is highly susceptible to postoperative function impairment in children with TOF. We would like to thank the authors for addressing the need for careful and systematic evaluation of RV in patients with TOF after surgical correction. We hope that with more interesting studies like this from Pietrzak and Werner [1], quantification of systolic RV function with tissue Doppler and speckle tracking echocardiography will become a routine measurement in postoperative TOF patients.

Conflict of interest: All authors declare that they have no conflicts of interest. No research involving human participants and/or animals was performed in this Letter to the Editor.

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