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EDITORIAL

Right ventricular systolic function, determined by echocardiography, after percutaneous balloon valvuloplasty in children with isolated pulmonary stenosis

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To the Editor,

With great interest we read the article "Longitudinal function and ventricular dyssynchrony are restored in children with pulmonary stenosis after percutaneous balloon pulmonary valvuloplasty" by Mahfouz et al. [1]. The manuscript describes a restored systolic right ventricular (RV) function in children with isolated pulmonary stenosis (PS) after balloon valvuloplasty. The authors state that in this population there is a need for a detailed evaluation of RV systolic function parameters. For example the tricuspid annular plane systolic excursion (TAPSE) and tricuspid annular peak systolic velocity (RVs) provide insights into the influence of a balloon valvuloplasty on systolic RV function. This could help clinicians to optimize the right point of time for interventional procedure. We want to emphasize that this topic is currently widely discussed and agree with the authors that pediatric data are still sparse. Mahfouz et al. [1] investigated these values in PS children and control group patients at a mean age of 3.5–11.9 years but do not provide age-related data. We would like to add that age-related data of TAPSE and RVs values in healthy children are already available [2, 3] and would like to mention that a comparison of their TAPSE and RVs data to available TAPSE and RVs pediatric normative values [2, 3] would have increased the statistical power of their analysis. Therefore the value of their work could be improved. We want to thank the authors for addressing the need for careful and systematic evaluation of RV systolic function in children with PS and would like to highlight their study, which for the first time provides cut-off non-invasive echocardiography values of RV function in children with PS before and after balloon valvuloplasty [1]. With more remarkable studies like this we are convinced that in the near future decision-making in terms of finding the right point of time for an interventional PS procedure will be greatly facilitated. Moreover, echocardiographic assessment of RV function determination can assist in the evaluation of PS patients in routine follow ups and may reduce costs by decreasing the number of more advanced investigations.

Compliance with ethical standards

Conflict of interest All authors declare that they have no conflict of interest.

Ethical approval This article does not contain any studies with human participants performed by any of the authors.

References

1. Mahfouz RA, Moustafa TM, Gouda M, Marwa G (2017) Longitudinal function and ventricular dyssynchrony are restored in children with pulmonary stenosis after percutaneous balloon pulmonary valvuloplasty. Int J Cardiovasc Imaging. doi:10.1007/s10554-016-1036-4
2. Koestenberger M, Ravekes W, Everett AD, Stueger H, Heinzl B, Gamillscheg A et al (2009) Right ventricular function in infants, children and adolescents: reference values of the tricuspid annular plane systolic excursion (TAPSE) in 640 healthy patients and calculation of z score values. J Am Soc Echocardiogr 22:715–719

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3. Koestenberger M, Nagel B, Ravekes W, Avian A, Heinzl B, Cvirn G, Fritsch P, Fandl A, Rehak T, Gamillscheg A (2012) Reference values of tricuspid annular peak systolic velocity in healthy pediatric patients, calculation of z score, and comparison to tricuspid annular plane systolic excursion. Am J Cardiol 109:116–121