CORRESPONDENCE

Incremental value of pulmonary artery diameter indexed for BSA in pulmonary hypertension

With great interest, we read the article by Rajaram *et al*¹ regarding the prevalence and prognostic value of CT measures in patients with pulmonary arterial hypertension. They found the inferior vena cava area and presence of pleural effusion or septal lines to be the only significant predictors of mortality. A vascular parameter, the ratio of the pulmonary artery (PA) to ascending aorta (Ao), was no predictor for mortality during a mean follow-up of 3 years.¹ A better vascular parameter might be the PA indexed for body surface area (BSA). However, in their study this was not taken into account.

The non-invasive diagnostic and prognostic approach to pulmonary hypertension (PH) is challenging. In patients with PH, dilatation of the main PA is common. As a result, different parameters including the main PA diameter, PA to Ao ratio and PA indexed for BSA have been identified as reliable predictors of PH and additionally show good correlation with mean PA pressure as measured by right heart catheterisation. Interestingly, the correlation improved significantly after correction for BSA.² Unfortunately, less is known regarding PA parameters in relation to outcome.

Similarly as reported in this study, Schölzel *et al*³ could not correlate PA to Ao ratio with mortality in a subgroup of PH. However, they showed that the PA diameter indexed for BSA was an independent predictor of mortality, suggesting this could be a more distinct parameter compared with PA to Ao ratio. Both ascending aorta and PA measurements are known to be influenced by BSA.^{4 5} However, whether both measurements are affected equally is unknown. Variation of influence by BSA might explain the inaccuracy of PA to Ao ratio and potential superiority of PA indexed to BSA to predict mortality.

We reckon the study of Rajaram *et al* is highly valuable, although PA indexed for BSA is lacking. We respectfully propose to integrate PA diameter indexed for BSA into their data since it is easily calculated and can be of incremental value upon absolute PA diameter or PA to Ao ratio in

order to evaluate the prognosis and clinical outcomes in PH.

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