Peer review file

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Reviewer A

Comment 1: The study has been performed retrospectively. This will have generated bias.

Reply 1: The criteria of inclusion of the patients to the present retrospective study were as follows – the definite diagnosis of HP and echocardiographic examination performed at diagnosis. Our HP protocol included echocardiography at diagnosis, nevertheless in some patients, it has been lacking due to technical reasons. Therefore, some of the population diagnosed with HP may be underrepresented in the present study. This statement is included in the Discussion.
Changes in the text: Page 12, 251-254

Comment 2: It has not been stated why the authors chose 36mmHg for SPAP as the cutt-of level.

Reply 2: The rationale for choosing SPAP of 36 mmHg as the cut off level is based on ERS/ESC guidelines from 2009, which were used at the period of time that most patients have been diagnosed. This version of ERS/ESC guidelines defined SPAP of 37-50 mmHg (with or without additional echocardiographic signs of PH) as “possible PH” and SPAP>50 mmHg – as “probable PH”.
Therefore, we have chosen SPAH value exceeding 36 mmHg as echocardiographic sign of PH. This explanation was added to the text, but table 1 presenting the ERS/ESC criteria of PH diagnosing on echo was removed due to Reviewer 2 statement that it doesn’t add on to the text.
Changes in the text: Page 5, 99-104

Comment 3: In ERS/ESC guidelines on pulmonary hypertension echocardiography is mentioned as a screening tool only.

Reply 3: The guidelines from 2009 state that RHC should be used for the definite diagnosis of PH in the course of lung disease (group 3). Nevertheless, this indication was weakened in the next edition (2015), that stated: “RHC is not recommended for suspected PH in patients with lung disease, unless therapeutic consequences are to be expected (lung transplantation, alternate diagnosis such as PAH or CTEPH, potential enrolment in a clinical trial)”
As these conditions were not fulfilled in the presented group of HP patients, there was no need for further diagnosing PH on RHC.

Comment 4: A right heart catheterisation (RCH) should be performed to establish the diagnosis PH. In a prospective study in patients with EAA by Oliviera ERJ 2014, the under- and over estimation of the PAP measurements by echocardiograph in relation to the measurements by RCH in patient have been described.

Reply 4: We agree that echocardiography may under- or overestimate PAP measurements. Nevertheless, it would not be ethical to propose RHC to all HP patients at diagnosis. In Oliveira’s study, most patients were referred to PH expert center due to severe right heart insufficiency on echocardiography. Therefore, RHC performance was justified in them.

Reviewer B

Comment 1: The author’s kind of mix results, methods, and report for example age of the patients in the method section

Reply 1: According to the reviewer’s suggestions we moved the characteristics of the study group into the section “Results” (table 1)

Comment 2: It remains unknown if the echo was performed due to current recommendations such as Kiely, D. G., D. Levin, P. Hassoun, D. D. Ivy, P. N. Jone, J. Bwika, S. M. Kawut, J. Lordan, A. Lungu, J. Mazurek, S. Moledina, H. Olschewski, A.

Peacock, G. D. Puri, F. Rahaghi, M. Schafer, M. Schiebler, N. Screaton, M. Tawhai, E. J. Van Beek, A. Vonk-Noordegraaf, R. R. Vanderpool, J. Wort, L. Zhao, J. Wild, J. Vogel-Claussen, and A. J. Swift. "Express: Statement on Imaging and Pulmonary Hypertension from the Pulmonary Vascular Research Institute (Pvri)." Pulm Circ (Mar 18 2019): 2045894019841990.

Reply 2: Echocardiography was performed in the period of 2005-2017. Therefore, statement paper, mentioned by the Reviewer 2, published in 2018, could not be applied. The paragraph concerning echocardiographic methodology was added to the text.
Changes in the text: Page 5, 92-107

Comment 3: Pulmonary hypertension is not defined by the systolic pulmonary arterial pressure derived from echo. Nathan, S. D., J. A. Barbera, S. P. Gaine, S. Harari, F. J. Martinez, H. Olschewski, K. M. Olsson, A. J. Peacock, J. Pepke-Zaba, S. Provencher, N. Weissmann, and W. Seeger. "Pulmonary Hypertension in Chronic Lung Disease and Hypoxia." Eur Respir J 53, no. 1 (Jan 2019). The authors provide data of the systolic pulmonary pressure from echo and not the invasive mean pulmonary arterial pressure, which is required for the diagnosis of pulmonary hypertension. Therefore, all statements of PH need to be reworded.

Reply 3: As mentioned before, the presented paper concerned predicting of PH probability on echocardiography in HP patients, at diagnosis. In majority of them, PASP increase was mild (37-50 mmHg). Therefore, the doctors taking care of the patients, didn’t refer them to RHC. We tried to address the problem rewording the most problematic phrases.

Comment 4: Statement of ethical approval is within the statistic section

Reply 4: The ethical approval statement was placed after “Aim of the study”:
Changes in the text: Page 4, 81-82.

Comment 5: There is data that risk stratification in PH lung disease matters (Yogeswaran, Athiththan, Khodr Tello, Marlene Faber, Natascha Sommer, Stefan

Kuhnert, Werner Seeger, Friedrich Grimminger, Hossein Ardeschir Ghofrani, Manuel J. Richter, and Henning Gall. "Risk Assessment in Severe Pulmonary Hypertension Due to Interstitial Lung Disease." The Journal of Heart and Lung Transplantation (2020). Accessed 2020/06/29.)

Reply 5: The presented group of patients was subsequently treated with immunosuppressive therapy (prednisone or prednisone+ azathioprine), therefore evaluation of risk factors should take into account the treatment response.

Comment 6: The correlations of echo parameters with other echo parameters does not make any sense and is not helpful to describe the burden of right heart impairment in this patient population. Are there any correlations of echo parameters to lung function or pO2, desaturation in 6mwt, 6MWD, TLCO, CT findings etc.

Reply 6: According to the Reviewer's suggestion the figures 1-3 were removed. Instead, the correlations between TVPG and pO2, desaturation rate in 6MWT, 6MWD and TLCO have been shown (figures 1 – 4).

Comment 7: Table 1 is also not helpful. How does this add to the study?

Reply 7: Table 1 was removed from the text (new table 1 includes patients' characteristics).

Comment 8: The authors give a pulmonary artery acceleration time mean in the table 2 of 11.47. This is physiological not possible and also conflicts with the figure 1. The PAAT in patients without systolic pressure elevation must be somewhat above 100ms. Yared, K., P. Noseworthy, A. E. Weyman, E. McCabe, M. H. Picard, and A. L. Baggish. "Pulmonary Artery Acceleration Time Provides an Accurate Estimate of Systolic Pulmonary Arterial Pressure During Transthoracic Echocardiography." J Am Soc Echocardiogr 24,

Reply 8: Mean AcT shown in table 2 should be 117.3 ms, we apologize for this mistake.

Comment 9: After correction of the PAAT. One table should be built with all patient characteristics as new table 1. Then focus of associations of systolic pressure with lung function and/ or ct data of the HP patients. In the end, the prediction models. Is there data on outcome or clinical worsening?

Reply 9: The revised version of the paper was composed according to Reviewer 2 suggestions. We are in process of gathering the data concerning the clinical outcome of therapy and survival. The results are not available at the moment.

Comment 10: The authors state that "The diagnostic utility of above mentioned parameters for the prediction of PH on echocardiography was comparable (figure 5)" The aim here should be redefined. What extend of lung impairment, CT finding and so on is associated with elevated pulmonary systolic pressure. This is the question to address here, and the abstract, introduction and so on should follow this line of argumentation. As the central question for the general practitioners out there is the following, which the authors also included in the abstract: which HP findings are associated with elevated pulmonary pressure and what is its relevance.

Reply 10: The statement considering the role of chosen parameters with proposed reference cut offs for prediction of PH on echocardiography, have been included into the text.