The study of Mirko Völkers, David Rohde et al aimed to investigate the release of myocardial high sensitive Troponin T (hsTnT) in patients with pulmonary arterial hypertension (PAH) in response to physical exercise. The case-control study aims to test hsTnT as a biomarker potentially helpful to clarify whether physical exercise in PAH patients may be beneficial or not. Indeed as stated by authors in the study background, there are conflicting data about the positive or negative effect of physical exercise in PAH patients. In order to answer to this question, 24 patients with PAH, were studied by means of symptom-limited cardiopulmonary exercise tests. hsTnT was then measured by an automated hsTnT assay (Roche) at four different timepoints (before exercise, after 30, 180 and 300 minutes. In around 80% of PAH patients, hsTnT was detectable before exercise with a close correlation between hsTnT and NT-proBNP. In contrast to NT-proBNP which remained constant after exercise, hsTnT was detectable in all PAH patients after exercise with a 95% increase as compared to baseline values. The paper is on the whole well written, the method chosen are correct to study the kinetics of hsTnT related to physical exercise in PAH, the results are well presented. However, the main pitfall of the current study is that in both the study background and study discussion, the question raised and the answer given to the reader are both misleading considering the available data.

Indeed, to present in the background the conflicting data between clinical studies showing prognostic benefits of physical training programs in PAH and negative findings in experimental models of progressive PAH, leads the reader to think that the current study will answer or clarify the following question: is physical training safe or dangerous in PAH? However, this study is not designed to answer to this tricky question. In fact, in the current study the type of exercise is a symptom limited maximal exercise and not the one usually chosen for physical training programs, which are mainly characterized by long lasting exercises and low levels of intensity. Moreover the demonstration that a slight increase in hsTnT may occur after exercise for reasonable increase in arterial pulmonary pressure and right ventricular overload, may not exclude that the amelioration of vascular resistances or in general haemodynamics after exercise (maybe in the long term, not only after just 300 minutes) will not determine a paradoxical reduction in hsTnT release. Therefore, it is overambitious to state or in a more subtle way, to let the reader think, that physical exercise may be potentially harmful in PAH patients. I believe that just stating in the very last paragraph “This does not reflect controlled exercise and respiratory
training used in previous studies. If controlled exercise-training can cause relevant hsTnT release in patients with progressive RV dysfunction remains to be investigated.” is not enough as compensation to the biased view expressed in the whole paper.

Furthermore, although it is reasonable that the increase in hsTnT in this specific population is engendered by right ventricular overload, it cannot be excluded from the data available or reported by authors, whether comorbid left ventricular systolic or diastolic dysfunction, coronary disease or renal insufficiency may contribute to hsTnT elevation in some patients. Please report in table 1 also values of ejection fraction, diastolic function, renal function and specify in how many patients a history of coronary disease is known.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I have not received in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this paper, either now or in the future.

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I have no financial competing interests. I have not any non-financial competing interests in relation to this paper.