



Letter to the Editor

Response to letter from dr Altmayer regarding publication “Sequential treatment with sildenafil and riociguat in patients with persistent or inoperable chronic thromboembolic pulmonary hypertension improves functional class and pulmonary hemodynamics”☆



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Dear Dr. Altmayer,

Thank you for your interest in our study [1].

Clearly, randomised control trials (RCT) are the best way to assess interventions in medicine. Here, we just share our experience with changing *off-label* sildenafil treatment to riociguat after its approval for CTEPH therapy, based on a RCT [2]. Unoperable distal CTEPH is a progressive disease with high mortality rate [3,4] so we felt that refraining from approved medical therapy is inappropriate. While some our patients remained on sildenafil this was mostly due to their good condition and lack of motivation to change therapy. Such subgroup would be too biased to serve as control, so we stayed with one-group pre-posttest comparisons.

The hemodynamic variables presented in our paper were normally distributed justifying the use of Student's *t*-test for paired variables. Following your remark we have re-assessed changes in WHO functional

class with the Wilcoxon pairs order test confirming reported results (BAS vs SIL $p = 0,051$; SIL vs RIO $p = 0,018$; BAS vs RIO $p = 0,003$).

We agree that testing the dependent variable in each time point to compare the effect of different interventions would require models with analysis of variance with control group impossible in our case, as there was no control group.

Despite those concerns, we believe that our observations may be of help for our colleagues when making treatment decisions in specific clinical situations. Our supplementary Fig. 1 which shows patient disposition in our study is a good way to see how many different clinical scenarios have to be faced in CTEPH.

Conflict of interest

Szymon Darocha reports receiving grants and personal fees from Actelion, MSD, Bayer, and AOP Orphan.

Marta Banaszekiewicz does not report any conflicts of interest.

Arkadiusz Pietrasik does not report any conflicts of interest.

Michał Piłka does not report any conflicts of interest.

Michał Florczyk reports grants and personal fees from Actelion, MSD, Bayer, United Therapeutics, and AOP Orphan.

Maria Wieteska does not report any conflicts of interest.

Anna Dobosiewicz does not report any conflicts of interest.

Adam Torbicki does not report any conflicts of interest.

Marcin Kurzyna reports grants and personal fees from Actelion, MSD, Bayer, and AOP Orphan.

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☆ Those authors take responsibility for all aspects of the reliability and freedom from bias of the data presented and their discussed interpretation.

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