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LETTER-TO-THE EDITOR

Reply to comments and questions of Dr. Correale et al. about our review concerning CTEPH

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We would like to thank Dr. Correale et al. for their interest and valuable comments on our review regarding the diagnostic approach to chronic thromboembolic pulmonary hypertension (CTEPH) and the available surgical and medical therapeutic options [1]. They ask for further comments on congenital abnormalities causing hypercoagulability in these patients.

The prevalence of CTEPH after acute pulmonary embolism is estimated at 0.1–4.0% after 2 years [2−5]. It is still not known why some patients develop CTEPH after acute pulmonary embolism and others do not. The risk of developing CTEPH is increased in patients who have recurrent venous thromboembolism, large perfusion defects and echocardiographic signs of pulmonary hypertension at the initial presentation [6]. Interestingly, the development of CTEPH is not associated with common risk factors for venous thromboembolism, such as factor V Leiden, factor II mutation, deficiency of antithrombin, protein C and protein S or a prothrombin G20210A gene mutation [7]. The prevalence of these factors is low in CTEPH and some of them seem to occur with similar frequency among patients with CTEPH and the general population. There are two exceptions. The presence of antiphospholipid antibodies and Lupus anticoagulant is found in 10–20% of the CTEPH patients and antiphospholipid antibodies predispose to acute venous thromboembolism and in some cases even recurrent pulmonary embolism [6,8−10].The study of D'Armini et al. compared 28 patients with high levels of antiphospholipid antibodies with 156 patients with low level or absence of antiphospholipid antibodies who all underwent pulmonary endarterectomy. There was no difference between the two groups after surgery in terms of mortality and major complications. However, the patients with high levels of antiphospholipid antibodies had significantly more transient neurological complications postoperatively [11].

Several studies demonstrated increased levels of FVIII in CTEPH patients [12−14]. One study investigated the effect of pulmonary endarterectomy on FVIII levels, and found no change after surgery. Interestingly, the level of FVIII decreases after medical treatment of pulmonary arterial hypertension (PAH) [15]. However, the exact mechanism of how these factors contribute to CTEPH remains unknown. To our knowledge, there are no studies comparing methylenetetrahydrofolate reductase (MTHFR) C677T polymorphism between CTEPH patients and healthy controls. Furthermore, MTHFR polymorphism is not associated with PAH [16].

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Routine screening for thrombophilia seems only reasonable when it has an impact on the prognosis, treatment or outcome of CTEPH. We must keep in mind that all patients receive life-long anticoagulant treatment. In the literature, only high levels of antiphospholipid antibodies were demonstrated to influence postoperative outcome after pulmonary endarterectomy. Therefore, according to the guideline, we think that screening for the antiphospholipid syndrome is reasonable [17].

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