Ventilatory limitations are not associated with dyspnea on exertion or reduced aerobic fitness in pectus excavatum: a critical information that must be highlighted to prevent inappropriate interventions.

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Abstract

Cover letter Pediatric Pulmonology Dear Editor, Enclosed is a manuscript to be considered in Pediatric Pulmonology that does not require an abstract, usually. This letter to the editor entitled “Ventilatory limitations are not associated with dyspnea on exertion or reduced aerobic fitness in pectus excavatum: a critical information that must be highlighted to prevent inappropriate interventions” comments the reports by Hardie and al. which tested the hypothesis that PEX deformities are associated with a pulmonary impairment during exercise and concluded that resting lung volume measurements were associated with the anatomic degree of PEX severity.

TITLE PAGE

Ventilatory limitations are not associated with dyspnea on exertion or reduced aerobic fitness in pectus excavatum: a critical information that must be highlighted to prevent inappropriate interventions.

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Sir,

It was with great pleasure that we read the interesting article written by Dr. Hardie. and al. (1) and we would like to develop the impact of their findings on pectus excavatum (PEX) treatment with our experience. The authors tested the hypothesis that PEX deformities are associated with a pulmonary impairment during exercise and concluded that resting lung volume measurements were associated with the anatomic degree of PEX severity. However, respiratory limitations during maximal exercise are uncommon and PFT patterns have poor correlation with symptomatology or VO2.

We believe their conclusions could render invasive thoracic surgeries obsolete, as the functional requirements can no longer justify these risky operations. The results found by the authors also reinforce the 2019 NHS England conclusion (2) that there is not sufficient evidence to support the routine commissioning of thoracic

surgical treatment for PEX. Indeed, many investigators suggest exercise intolerance in PEX is directly related to compromise in the cardiopulmonary response from the anatomic distortion of the chest wall. This justifies their aggressive treatment by Ravitch and Nuss procedure (3) and, therefore, accepting the possible life-threatening complications related (4).

Otherwise, the author's finding suggests that non-respiratory causes are more likely for the high rates of dyspnea and reduced aerobic fitness reported in PEX. A hypothesis to be explored could be the inadaptation to exercise related to the psychological impact induced by an erroneous health education given to patients with a PEX regarding the consequences of this one during exercise.

Finally, as PEX is a congenital deformity with psychological impact, we strongly advocate a procedure using silicone elastomer custom-made implant usable for life in order to fulfill aesthetic and psychological demands, with high-quality outcomes and very low morbidity (5). No serious statistics showing increased functional risk in the absence of bone remodeling have been reported so far, and none of the 638 patients performed by the senior author in the past 28 years have complained of actual or worsened cardiovascular problems.

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