Abstract: P190

Level of physical activity performed by patients with pulmonary hypertension group I and IV

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Introduction: Recently, measuring physical activity (PA) has become particularly important in different pathologies to assess the significance of this activity in the evolution and prognosis of syndromes and diseases. Pulmonary hypertension (PH) is defined as an increase in mean pulmonary arterial pressure (mPAP) =25 mmHg, measured by a right cardiac catheterization performed under resting conditions. PH affects both pulmonary and cardiac vascular system. It means an increase in pulmonary vascular resistance (PVR) due to the remodeling of the small pulmonary arteries which cause increased pulmonary arterial pressure, right ventricle insufficiency and premature death.

Objective
Evaluating PA levels in PH patients living in the area of Madrid, by means of an accelerometry.
Analysing whether these patients obey the recommendations of PA stablished by the WHO.
Evaluating whether PA levels performed by these patients condition the prognosis of this disease.

Material and method: The study protocol was approved by the ethical committee (14/347) and followed the principles of the Helsinki Declaration. All participants gave their written consent. The data of this research was obtained from 2 groups: 75 patients with PH and 107 patients without PH.

PA levels were measured through the use of an Actigraph Triaxial Accelerometer GT3X (Actigraph, Pensacola, FL, USA). The patients used the accelerometer for 5-10 consecutive days.

The acceleration data and the percentage of people who complied with the international recommendations was compared. Fishers test was used, and Student’s t-test was applied for unpaired data. Atypical accelerometry values were eliminated using box plots and bar charts.

Results: With the exception of vigorous PA (with very low values in both groups), all accelerometry data showed significant differences between patients and controls. Lower PA levels and fewer individuals meeting minimum requirements of PA guidelines, but higher inactivity time, in the former. Notably, the odds ratio (OR) of having a "low-risk" value of 6-minute walking distance (=464 m) or ventilatory equivalent for carbon dioxide (=39) was higher in patients following moderate-vigorous PA (MVPA) guidelines than in their less active peers [OR =4.3, 95% confidence interval (CI), 1.6–11.6, P=0.005, and OR =4.5, 95% CI, 0.9–21.1, P=0.054].

Discussion and Conclusions:
Accelerometry was demonstrated as a simple and practical tool to quantify and to know the levels and patterns of PA in subjects with PH.
The levels of PA daily performed by a representative sample of Spanish patients with PH were too low, not accomplishing the minimum recommendations stablished by the WHO (MVPA=150 min / week).
The pattern of physical inactivity shown by this population can contribute to further compromise their already
poor physical exercise capacity and even affecting their survival.