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Title: The six-minute walking test accompanied by pulse oximetry and ventilation assessment in patients with pulmonary arterial hypertension

Valeriy 6065 Bystrov walerabystrov@gmail.com , Tamila 6066 Martynyuk trukhiniv@mail.ru , Olga 6067 Arhipova olga_ark@list.ru , Pavel 6068 Galitsin pgalicin@yandex.ru and Irina 6069 Chazova cclibr@cardio.ru . ¹ Hypertension, Russian Cardiology Research and Production Complex, Moscow, Russian Federation, 12552 .

Body: The aim: to evaluate exercise capacity, oxygen desaturation and minute ventilation (VE) during six-minute walking test (6MWT) in pts with pulmonary arterial hypertension (PAH). Methods: 25 pts with PAH (aged 41,3±13,5 yrs) included in study. 18 pts had idiopathic PAH, 4 pts- PAH associated with systemic scleroderma, 3 pts- PAH associated with Eisenmenger syndrome. All pts had WHO functional class II-III, systolic pulmonary artery pressure 71,2±21,4 mmHg. 6MWT performed according to the requirements of American Thoracic Society (2002) with spirometer Spiropalm 6MWT (COSMED, Italy) with integrated pulse oximeter and ventilation measurement. Borg index was assessed in accordance with the 10-point scale. SpO₂ estimated at baseline and during 6MWT by continuous pulse oximeter using finger to determine exercise induced desaturation. VE was continuously measured using portable system Flowmeter. The measurement SpO₂, VE, respiratory frequency (RF), heart rate during 6MWT, distance walked were recorded and calculated. Results: The mean distance 6MWT was 460,12±102,0m with Borg index=2,8±1,0. Results of measurement during 6MWT demonstrated in table.

Results of measurement during 6MWT

	SpO ₂ , %	HR, beatpm	VE, l/min	RF, bpm
Start	93,17±8,3	78,0±12,1	10,4±3,9	21,38±10,3
Peak	85,76±11,2	121,0±18,9	36,6±9,6	31,39±4,4
Final	88,46±10,6	114,3±22,1	33,6±9,3	28,83±4,1

Desaturation time SpO₂ ≤88% was 4,6±1,7 min:sec. Conclusions: Oxygen desaturation and VE assessment during the 6MWT may improve functional status evaluation in PAH pts. It is helpful to monitor changing degree of functional impairment, quantify perceived dyspnea, to study presence and extent of desaturation on tension.

