

The Correlation between Nasal Resistance and Obligatory Oronasal Switching Point in Non-Athletic Non-Smoking Healthy Men

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Abstract : As the respiration via nose is important physiologically, many studies have been done about nasal breathing that switches to oronasal breathing during exercise. The aim of this study was to assess the role of anterior nasal resistance as one of the effective factors on this switching. Twelve young, healthy, non-athletic and non-smoker male volunteers with normal BMI were selected after physical examination and participated in exercise protocol, including measurement of the ventilation, work load and oronasal switching point (OSP) during exercise, and anterior rhinomanometry at rest. The protocol was an incremental exercise with 25 watt increase in work load per minute up to OSP occurrence. There was a significant negative correlation between resting total anterior nasal resistance with OSP, work load and ventilation ($p < 0.05$, $r = -0.709$). Resting total anterior nasal resistance can be considered as an important factor on OSP occurrence. So, the reducing the resistance of nasal passage may increase nasal respiration tolerance for longer time during exercise.

Keywords : anterior nasal resistance, exercise, OSP, ventilation, work load

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