

*1st International Symposium of Advanced Topics in Exercise Physiology,
Baja California, México*

Abstract

Saliva secretory IgA kinetics in obese subjects submitted to a graded exercise test

TORRES E¹, BOCANEGRA J², MONTECINO C², VELAZCO D², RENTERÍA I¹, GARCÍA P¹, ACOSTA I¹, AND JIMÉNEZ A¹

¹ Facultad de Deportes, Campus Ensenada, Universidad Autónoma de Baja California, Baja California, México

² División académica de Ciencias de la Salud, Universidad Juárez Autónoma de Tabasco, México

Category: Master

Advisor / Mentor: Alberto Jiménez Maldonado. jimenez.alberto86@uabc.edu.mx

ABSTRACT

INTRODUCTION: Secretory IgA (sIgA) is predominant immunoglobulin in secretions of the mucosal immune system. It inhibit attachment and replication of pathogenic microorganism, preventing colonization by these pathogens. Therefore, sIgA is consider the first line of defense against pathogens. Previous studies have indicated a direct link between low salivary sIgA levels with of upper respiratory tract infections (UTRI) episodes in endurance sports and elite athletes. **PURPOSE:** Determine the effect of a maximal graded exercise test on the saliva sIgA levels in obese adult subjects.

METHODS: Eleven obese male subjects (Age 31 ± 1.53 years) were recruited. The Body Mass Index (BMI) and, Waist Circumference (WC) were measured. Graded exercise test was performed on an electrically-braked cycle ergometer (Lode). The Heart rate (HR) was registered using a digital pulse meter (Polar FT1 model) before, immediately finished the exercise and after 30 min post- exercise test. The saliva samples were collected alongside with HR during the test. **RESULTS:** The WC (110.37 ± 3.89 cm) and BMI (34.73 ± 1.62 kg/m²) values confirmed the obesity state in the participants. The HR at basal was 77.09 ± 3.10 bpm, at post exercise, the HR mean was 175.45 ± 4.94 bpm ($p < 0.0001$ vs basal). Finally, at 30 post exe, the HR was 91.81 ± 3.01 bpm ($P < 0.0001$ vs post-exe). In basal state, the sIgA concentration was 94.21 ± 13.57 $\mu\text{m}/\text{mL}$. At post exe, the sIgA mean was 175.9 ± 22.45 $\mu\text{m}/\text{mL}$ ($p < 0.05$ vs basal). Finally, 30' post-exercise the sIgA level was 91.39 ± 10.40 $\mu\text{m}/\text{mL}$. However, the sIgA was not modified by the exercise. **CONCLUSION:** The present work demonstrates that the salivary sIgA increases temporally as a response to the graded exercise test in obese adults. Although, the changes in the sIgA concentration was not accompanied with a major sIgA secretion in the saliva.