

ANALYSIS OF TRIATHLETES PHYSIOLOGICAL AND HUMORAL IMMUNE CONDITION AFTER COMPETITION

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ABSTRACT

Strenuous exercise is associated with tissue damage. This activates the innate immune system and local inflammation. The present study was to examine the physiological and humoral immune condition after triathlon competition. Subjects consisted of 8 male triathletes recruited from a military athlete club in Burundi participated to this study. Distances competed were 0.75km swim, 20km bike and 5km run. Blood biochemical parameters and Serum opsonic activity were measured for 8 male triathletes before and after competition. The following immunoglobulins were significantly decreased ($p<0.01$) after competition: IgA and IgG. Also a decline in some complements C_3 and C_4 has been observed ($p<0.01$). White blood cell count has significantly increased ($p<0.01$) after competition. Muscle enzymes such as glutamate oxaloacetic transaminase (GOT), creatine kinase (CK) and lactate dehydrogenase (LDH) have increased after competition. On serum opsonic activity (SOA), only area under the curve (AUC) has increased ($p=0.01$), peak height (PH) and peak time (PT) didn't presented a significant change. FFA level in the blood has significantly increased, while total cholesterol has decreased in the blood. Triathletes experience some immunological alteration after competition. Fat constitute the main fuel over the duration of competition. This means that aerobic lipolitic energy production system is constantly used during competition.