

Infections and immune disturbances: clinical-based outcomes

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ABSTRACT

Whatever their level or type of sport practice, athletes are exposed to infectious diseases or immune-related problems. This susceptibility is partly explained by exercise-induced immuno-suppression. Moreover, many athletes are exposed to either pathogens or physico-chemical influences while practising their sports. Indeed, the respiratory tract, the digestive tract as well as the skin and mucosa can be seriously challenged in some aerobic outdoor or indoors sports as well as in some contact sports. At the upper respiratory tract level, and especially after exercise-associated hyperventilation, symptoms may develop, but it is sometimes difficult for the medical staff to confirm any infectious origin. Allergic rhinitis and bronchial hyper-reactivity are some clinical examples. Indeed, exercise-induced rhinitis affects more than a third of the athletes, whereas allergic diseases affect around half of the athletic population. Epstein-Barr virus reactivations as well as uncommon viral attacks are also possible in high level athletes.

The gut is also a barrier that is sometimes challenged in travelling athletes. Gastro-intestinal infection is the second infectious reason for an athlete not to train or compete. Every sport physician should recognize serious symptoms and prevent her or his athlete from further intense exercise. More recently, it has been shown that Non Steroidian Anti Inflammatory drugs compromise the barrier integrity and promote subsequent bacterial translocation and its associated local and systemic inflammation.

Skin infections are quite frequent but often neglected or under-diagnosed by both athlete and their medical staff. Nevertheless, several studies have reported high percentage of contamination (man to man or mat to man) in sports like wrestling or judo. Furthermore, the clinical features of the disease are generally not consistent with those displayed by the general population.

Last but not least, sub-chronic and paucisymptomatic viral or parasitic infections may represent a real diagnostic challenge for the clinician. Such a medical condition should always be considered when athletes demonstrate unexplained fatigue or decrease in performance. Among these conditions, the viral myocarditis is one the most potentially harmful one, but its detection and treatment is still controversial in high level athletes.