

Time Course of Symptoms During the Development of A Parasympathetic Overtraining Syndrome

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The goal of this study was to investigate the time course of symptoms during a period of overtraining. A parasympathetic overtraining syndrome (OT) was generated in 6 experienced longdistance runners by an increase of exercise volume and intensity over 7 weeks. Weekly clinical investigations distinguished between normal state (N), overload (OL) and OT. Symptoms were monitored in detail by a daily questionnaire (n=306). The frequency of the symptoms were compared with the χ^2 -test, different patterns were detected by MANOVA. OL occurred after 3 weeks, OT after 5.5 weeks. Musculoskeletal symptoms with changing localization were more frequent and variable in OL ($p < 0.01$) and were slightly reduced in OT ($p < 0.05$). In contrast the complaints of the Achilles tendon appeared at the end of the study. Sleep disturbances were detected at the beginning and in OL ($p < 0.05$). The number of vegetative symptoms, mood disturbances and psychic alterations increased in the second part of the study ($p < 0.05$ to 0.001). Infections of the upper respiratory and gastrointestinal tract were more frequent in N ($p < 0.05$), generating at least in part the OT. The total number of symptoms was elevated in OL ($p < 0.01$) and reduced in OT ($p < 0.05$). The pattern differed between N and OL or OT ($p < 0.01$). The symptoms persisted up to 4 weeks after the end of the study. In the manifest state of OT vegetative symptoms, mood disturbances, psychic alterations and complaints of the Achilles tendon are dominating the clinical picture with a reduced total number of symptoms. Musculoskeletal symptoms are more typical in OL, sleep disturbances of early prodromal stages. These typical patterns could be useful for a staging, when examining an athletes history of the last 2-3 months.

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