53 - THE ANALYSIS OF STATE OF MOOD IN ATHLETES IRONMAN AND INCIDENCE OF THE RISK FACTORS FOR THE OVERTRAINING SYNDROME.

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INTRODUCTION

Triatlon Ironman is a test of great load of composed physical exercise for 3,8 km swimming, 180 km of cycling and 42 km race. The variation of duration of the test can vary of 8 hours up to 17 hours in amateur athletes. Had to the characteristics of this modality, the physical training for athletes of Ironman is arduous and requires perfect balance between the intensity, duration, daily load of work and time of physical recovery so that the happened positive organic adaptations of the trainings happen. Studies point that a tenuous line exists enters an efficient training to guarantee excellent performance and the development of the syndrome of training excess (ARMSTRONG & VANHEEST, 2002; WEDGE et al., 2006).

The syndrome of training excess (SET) is a problem considered common between athlete due to the oscillations and recurrent balance absence of the adjustments between training, competitions and physical recovery. The values of prevalence of the SET found in literature had been of 6% of corridors of long distance, 33% of an Indian teams of basketball during a period of 6 weeks of training, 21% of a teams of Australian swimmers after 6 months of training for a national competition and more than 50% of the American professional football players during one season competitive of 5 months. Although it is more frequently perceived in elite athlete, the SET is also a problem in other levels of participation, as in amateur athletes (ALVES et al., 2006).

The syndrome of training excess is defined as a disequilibrium enters the demand of the physical exercise and the possibility of assimilation of the training, aggravated for an inadequate recovery, causing metabolic alterations with consequences that they enclose the performance not only, but also other physiological and emotional aspects (ROHLFS et al., 2004; ROHLFS et al., 2005a). The concepts of overtraining syndrome, chronic or persistent fatigue (overfadigue), physical hard work (staleness), emotional exhaustion (burnout), extreme use (overuse) and extreme work are used as synonymous for the SET (overwork). This absence of conceptualization standardization cause confusion and difficulty in determining disgnostic forms (KENTTÄ & HASSMÉN, 1998; ALVES, 2005; ALVES et al., 2006).

Many symptoms of the syndrome of the training excess have been reported in literature. Amongst the physiological symptoms they are: the reduction of the physical performance, the muscular force and the motor coordination, the increase of the perception of the effort and the period of recovery, the alterations in the lactate curve, sleep and the anorexy. The symptoms presented biochemists had been: the reduction of the muscular glycogen, the free testosterone and the bigger reason testosterone/cortisol that 30%; as well as the increase of cortisol and the urea. In relation to the immune system symptoms, one met the increase of the infections and diseases, the reduction of the activity of macrophages. On the psychological symptoms they had been told the depression, stress it emotional, the fear of the competition and the general apathy (FRY et al., 1991). The symptoms still exist associates to the performance (diminished performance, capacity of diminished maximum income, tolerance to the diminished load, necessity of drawn out recovery, diminished muscular force, incapacity in the fulfilment of goals) and to the processing of information (loss of coordination, diminished capacity to deal with great amount of information, reduced capacity to correct imperfections techniques, repetition of errors that previously had been corrected).

Despite the existence of more than 200 symptoms of the SET, established disgnostic criteria used routinely for athlete do not exist well and team technique (FRY et al., 1991; USITALO, 2001; LAWRENCE et al.2002; ROHLFS et al., 2004; ROHLFS et al., 2005b; ARMSTRONG & VANHEEST, 2002; GLEESON, 2002; PETIBOIS, et al.2002; LAC & MASO, 2004).

The hormones markers, biochemists markers, psychological markers (variations in the mood state), immune markers contribute with excellent information to assist in the diagnosis. Thus, the association enters the reduction of the physical performance of the athlete and the detention of alterations demonstrated by these markers is indicated to diagnosis the SET. In this direction, the SET also is defined by the reduction of the specific performance of the sport associated with riots of mood (URHAUSEN & KINDERMANN, 2002).

In relation to the markers of psychological riots, questionnaires have been used and perfected in the last years for the sport context (ALVES et al., 2006; COAST, 2003). The instruments that have been of great utility for verification of changes in the state of athlete mood are the POMS questionnaires (Profile of Mood States) the Questionnaire of stress (QER-D) and the scale of BRUMS mood (Brunel Mood scale) (ROHLFS et al., 2004; ALVES, 2005b; ALVES et al., 2006). The use of instruments that they make possible measured of the mood state has shown to effectiveness in the detention of initial signals of the syndrome of excess of training, prevented its complete development and preventing a period of inactivity (TERRY et al., 2000a; PELUSO, 2003; ROHLFS et al., 2005a; ROHLFS et al., 2005b; ALVES et al., 2006).

The advantages in the use of psychological markers to monitor the SET are related to the fact of that the mood fluctuations possess correlation with the dose-reply of loads imposed for the training and with physiological markers. Moreover, the costs for detention of the SET by means of the psychological questionnaires in the long run make of these measures of controls a satisfactory method that includes easy application, rapidity and economy (ALVES et al., 2006).

With intention to understand the relations between mood riots and syndrome of training excess, the present work has for objectives to analyze the state of mood of amateur athletes of Ironman and to verify the factors of risk for the syndrome of training excess.

MATERIALS and METHODS

The sample was composed for 30 pertaining amateur athletes to a team of Florianópolis, independently of sex and age, that had completed the test of Ironman in the year of 2007.

The instrument used for the evaluation of the state of mood of the athletes was the classification of BRUMS (2003), that it contains 24 objective questions representing six components of the mood: tension, depression, anger, energy, fatigue and confusion. The esteem time to answer it was around 2 minutes for athlete. Percentile 50 for analysis of each component was used as reference.

The mood scale was applied at seven different moments chosen in accordance with the period of training: in the peak of bigger of training load; before and after the trainings of half Ironman; in the day that preceded the test; in the posterior day the

competition; five days and twelve days after the event.

The applications of the mood scale had been structuralized some cares presented in scientific literature (TERRY, 1995 in agreement; TERRY, et al., 1996; TERRY, 2000a; TERRY, 2000b; TERRY& LANE, 2003).

RESULTS and ANALYSIS

The investigated athletes had presented variation age of 26 the 51 years, having been the average age of 36,29 years. Of the 30 athletes, 27 were man. 95.24% of them had college and that 42.9% had carried through the Ironman test for the first time in 2007.

The individuals trained in average 3,24 hours/day, being the variation of 1 hour and 30 minutes up to 6 hours for day. The physical training for the Ironman is diversified, being thus the athletes they can train to each day two different modalities, or only one, or the three modalities with lesser load. In this direction, in relation to the amount of days per week of training for modality, the athletes had told to train in average 4 days of cycling, 3 days of swimming and 4 days of race.

In relation to the variations in the mood state, the data had demonstrated that the majority of the athletes presented alterations above of percentile 50 (P50) in the following factors: A) In the training peak: fatigue (P51-P75), anger (P52-P91) and energy (P52-P70). B) Before the trainings: fatigue (P51-P93) and energy (P52-P70). C) After the trainings: fatigue (P51-P96). D) In the day that preceded the test: energy (P52-P70) and tension (P52-P67). E) In the posterior day the competition: fatigue (P51-P86) and energy (P52-P70). F) Five days and Twelve days: energy (P52-P70). The team presented adequate oscillations of mood to the training load at each evaluated moment, showing to good physical and psychological recovery before and after the competition.

The tension observed at the moment daily pay-test was not harmful to the athletes, even so it represents lived deeply feelings of apprehensions and anxiety. Authors describe that when the tension is presented high it harms the fine motor abilities, however assist in exercises of global coordination requirement by means of the increase of the determination.

In the individual analysis of the data, alterations in the state of mood compatible with the symptoms had been verified that take the SET in five athlete of the team, representing an incidence of factors of risk for development of syndrome the 16,6%. Studies display that how much the duration of the sport, bigger event bigger the influence in the fluctuations of the mood. They is esteem that of 60% 70% of the athletes of endurance of high level have entered in SET during its careers (MORGAN, et al., 1987; HOOPERS, et al., 1993; ROHLFS, et al., 2005a; ALVES, et al., 2006). The incidence how much to the signals and symptoms of overtraining it can vary enters 7% 20% (MORGAN, et al., 1987; HOOPERS, et al., 1993).

The research that had analyzed the state of mood of athlete by means of the BRUMS, had told that the association of values above of the P50 of fatigue, depression and confusion result in physical overhead, as well as the energy below of the same percentile. These problems was observed in the athletes with factors of risk for SET. In these athletes, the parameters of confusion and depression were high. Demonstrating feeling of uncertainty, instability for control of emotions, depreciation or negative understanding of itself.

The anger was a factor of the state of interesting mood to analyze due to its ambiguous character. When raised, it increases the adrenalin production, it provokes a bigger tolerance to pain, being able to generate two distinct actions: concentration absence of the athlete or increase of the determination. This feeling can provide improvement in the performance of athlete of extreme-endurance and sports of contact.

CONCLUSIONS

The diagnosis of the syndrome of training excess is complex. The symptoms presented for the athletes are confused with the organic modifications perceived the physical training after, being difficult to define them.

The studied team presented adequate oscillations of mood to the training load at each evaluated moment, showing to good physical and psychological recovery before and after the competition. T

he analysis of the state of mood carried through in this study was sensible for the detention of factors of risk for the development of the SET. The confirmation of the picture of overtraining will depend on others physiological evaluations.

KEY-WORLDS: overtraining, triatlon, physical training.

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THE ANALYSIS OF STATE OF MOOD IN ATHLETES IRONMAN AND INCIDENCE OF THE RISK FACTORS FOR THE OVERTRAINING SYNDROME.

ABSTRACT

The overtraining syndrome (SET) is considered a problem common among athletes due to fluctuations and imbalances between applicants of settings training, competitions and physical regeneration. The objective of the study was to examine the state of mood of athletes Ironman and the incidence of risk factors for the syndrome of excessive physical training. The sample was composed of 30 athletes amateurs belonging to a team of Florianopolis, regardless of sex and age, who completed the proof of Ironman in 2007. The instrument used for the evaluation of athletes was the classification of BRUMS, where used as reference the 50th percentile. The scale of mood was applied in seven different times chosen according to the period of training: at the peak of greater of training load; Before and after the training half Ironman; On the day preceding the proof sports; The day after the competition; five days and 12 days after the event. The results showed that most athletes submitted amendments above the 50th percentile (P50) in the following factors: A) In the peak of training: fatigue (P51 - P75), rabies (P52 - P91) and force (P52 - P70). B) Before training: fatigue (P51-P93) and force (P52 - P70). C) After training: fatigue (P51 - P96). D) The day before the race sports: force (P52 - P70) and voltage (P52 - P67). E) On the day after the competition: fatigue (P51 - P86) and force (P52 - P70). F) Five days and Twelve days: force (P52 - P70). The incidence of risk factors for the SET was 16.6%. It follows that the team presented swings of mood appropriate to the training load, showing good physical and psychological recovery before and after the competition.

L'ANALYSE DE L'ÉTAT D'HUMEUR DANS ATHLÈTES IRONMAN ET INCIDENCE DES FACTEURS DE RISQUE POUR LE SYNDROME D'OVERTRAINING.

RESUMÉ

Le syndrome overtraining (SET) est considéré un problème commun parmi des athlètes dus aux fluctuations et aux déséquilibres entre les demandeurs de la formation d'arrangements, les concours et la régénération physique. L'objectif de l'étude était d'examiner l'état d'humeur des athlètes Ironman et de l'incidence des facteurs de risque pour le syndrome de la formation physique excessive. L'échantillon s'est composé de 30 amateurs d'athlètes appartenant à une équipe de Florianopolis, indépendamment du sexe et de l'âge, qui ont accompli la preuve d'Ironman en 2007. L'instrument utilisé pour l'évaluation des athlètes était la classification de BRUMS, où utilisé comme référence le cinquantième percentile. La balance de l'humeur a été appliquée dans sept fois différentes choisies selon la période de la formation : à la crête de plus grand de la charge de formation ; Avant et après la formation demi d'Ironman ; Le jour précédant les sports de preuve ; Le jour après la concurrence ; cinq jours et 12 jours après l'événement. Les résultats ont prouvé que la plupart des athlètes ont soumis des amendements au-dessus du cinquantième percentile (P50) dans les facteurs suivants : A) Dans la crête de la formation : fatigue (P51 - P75), rage (P52 - P91) et force (P52 - P70). B) Avant la formation : fatigue (P51-P93) et force (P52 - P70). C) Après la formation : fatigue (P51 - P96). D) Le jour avant les sports de course : force (P52 - P70) et tension (P52 - P67). E) Le jour après la concurrence : fatigue (P51 - P86) et force (P52 - P70). F) Cinq jours et douze jours : force (P52 - P70). L'incidence des facteurs de risque pour SET était 16.6%. Elle suit que l'équipe a présenté des oscillations d'humeur appropriées à la charge de formation, physique d'apparence bon et psychologique rétablissement avant et après la concurrence.

EL ANÁLISIS DEL ESTADO DEL HUMOR EN ATLETAS IRONMAN E INCIDENCIA DE LOS FACTORES DE RIESGO PARA EL SÍNDROME DE OVERTRAINING.

RESUMEN

El síndrome overtraining (SET) se considera un problema común entre los atletas debido a las fluctuaciones y a los desequilibrios entre los aspirantes del entrenamiento de los ajustes, las competiciones y la regeneración física. El objetivo del estudio era examinar el estado del humor de los atletas Ironman y de la incidencia de los factores de riesgo para el síndrome del entrenamiento físico excesivo. La muestra fue compuesta de 30 aficionados de los atletas que pertenecían a un equipo de Florianopolis, sin importar el sexo y la edad, que terminaron la prueba de Ironman en 2007. Estaba la clasificación el instrumento usado para la evaluación de atletas de BRUMS, donde utilizado como referencia el 50.o porcentaje. La escala del humor fue aplicada en siete diversas veces elegidas según el período del entrenamiento: en el pico de mayor de la carga del entrenamiento; Antes y después el entrenamiento medio Ironman; En el día que precede los deportes de la prueba; El día después de la competición; cinco días y 12 días después del acontecimiento. Los resultados demostraron que la mayoría de los atletas sometieron enmiendas sobre el 50.o porcentaje (P50) en los factores siguientes: A) En el pico del entrenamiento: fatiga (P51 - P75), rabia (P52 - P91) y fuerza (P52 - P70). B) Antes de entrenar: fatiga (P51-P93) y fuerza (P52 - P70). C) Después de entrenar: fatiga (P51 - P96). D) El día antes de los deportes de la raza: fuerza (P52 - P70) y voltaje (P52 - P67). E) En el día después de la competición: fatiga (P51 - P86) y fuerza (P52 - P70). F) Cinco días y doce días: fuerza (P52 - P70). La incidencia de los factores de riesgo para el SET era 16.6%. Sigue que el equipo presentó los oscilaciones del humor apropiados a la carga del entrenamiento, al física de la demostración buena y al psicologica recuperación antes y después la competición.

ANÁLISE DO ESTADO DE HUMOR DE ATLETAS IRONMAN E INCIDÊNCIA DE FATORES DE RISCO PARA SÍNDROME DO EXCESSO DE TREINAMENTO FÍSICO.

RESUMO

A síndrome de excesso de treinamento (SET) é um problema considerado comum entre atletas devido às oscilações e desequilíbrios recorrentes dos ajustes entre treinamento, competições e recuperação física. O estudo teve como objetivo analisar o estado de humor de triatletas Ironman e a incidência de fatores de risco para a síndrome do excesso de treinamento físico. A amostra foi composta por 30 atletas amadores pertencentes a uma equipe de Florianópolis, independentemente de sexo e idade, que completaram a prova de Ironman em 2007. O instrumento utilizado para a avaliação dos atletas foi a Escala de Humor de BRUMS, onde se utilizou como referência o percentil 50. A escala de humor foi aplicada em sete momentos diferentes escolhidos de acordo com o período de treinamento: no pico de maior volume de treinamento; antes e após o treino de meio Ironman; no dia que antecedeu a prova esportiva; no dia posterior a competição; cinco dias e doze dias após o evento. Os resultados demonstraram que a maioria dos atletas apresentou alterações acima do percentil 50 (P50) nos seguintes fatores: A) No pico de treinamento: fadiga (P51-P75), raiva (P52-P91) e vigor (P52-P70). B) Antes do treino: fadiga (P51-P93) e vigor (P52-P70). C) Após o treino: fadiga (P51-P96). D) No dia que antecedeu a prova esportiva: vigor (P52-P70) e tensão (P52-P67). E) No dia posterior a competição: fadiga (P51-P86) e vigor (P52-P70). F) Cinco dias e Doze dias: vigor (P52-P70). A incidência de fatores de risco para a SET foi de 16,6%. Conclui-se que a equipe apresentou oscilações de humor adequadas ao volume de treinamento, mostrando boa recuperação física e psicológica antes e após a competição.