

Research on the influence of biochemical indexes of athletes during training period based on human action behavior

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Abstract: In order to explore the impact of biochemical indicators on athletes during training period, the author carries out analysis based on human action behavior. According to research and analysis, both large amount of exercise and high intensity exercise can lead to the decrease of Hb and T. Large amount of exercise training can cause BU to rise. High intensity training can cause an increase in CK. Nutritional supplementation has a significant inhibitory effect on these changes. The results show that in the training process, it is necessary to combine the changes of biochemical indicators such as Hb, CK, BUN and T to supplement the nutritional products reasonably, effectively promoting the athletes to remove fatigue and maintain good physical function and physical fitness.

1. Introduction

The world today is an era of peace and development. The level of competitive sports represents the level of a country's comprehensive national strength [1]. Because athletes are in the stage of growth and development, how to improve athletes' anaerobic and aerobic metabolism during training is beneficial to the normal growth and development of athletes, which is still an unsolved problem [2]. Monitoring and guiding the training of athletes with biochemical indicators has positive significance for exercise load status and functional diagnosis, and is an important symbol of scientific training of sports training [3]. In particular, the blood lactate index reflects the exercise intensity and training effect is more prominent [4]. The biochemical assessment of sports load is a comprehensive assessment of multi-index, multi-position and multi-factor. It can grasp and guide the training process more scientifically and improve the training effect more effectively [5]. In the sports training system, there are many factors that affect the performance of athletes [6]. For example, the genetic characteristics of athletes, the ability of action information processing, neuromuscular efficiency, homeostasis, physiological and psychological factors, growth and development level, as well as the influence of athletes' competitive state and rules, etc [7].

In high-level sports competitions, in order to achieve excellent results, we must rely on scientific and effective training means, and the implementation of training means is based on the changes of physiological and biochemical indicators of individual sports [8]. One of the functions of sports training system is to integrate various factors in an orderly way according to the law of formation and development of human action and behavior, and to integrate them into the matching hierarchy and process, so as to give full play to the special human action performance as a goal-oriented systematic training process [9]. In view of the lack of research in this area in China, we use some sports physiological and biochemical indicators to observe the changes of athletes' sports ability before and after training for one month, and preliminarily explore the impact of sports training on athletes' anaerobic and aerobic ability. Therefore, the scientific monitoring of physiological and biochemical indicators during athlete training is very important, and it has a significant significance in ensuring the successful completion of athlete training [10]. In the past, the coaches used their experience to guide and the athletes' hard-working teaching methods were no longer suitable for the fierce competition of today's competitive sports. Athletes need good explosive power, water resistance and treading to support jumping power. Modern sports training requires scientific guidance and scientific completion of training programs in the state of proper monitoring of bodily

functions.

2. Methodology

The monitoring of biochemical and biochemistry indicators of athletes is mainly based on the theory of sports biochemistry, and the experimental methods of sports biochemistry are used to explain the impact of exercise training on the body. Analysis of the changes in various biochemical indicators during exercise training is accurate, sensitive, and targeted. It is an important means for athletes to select materials, control exercise load, and assess physical skill status and training effects. The training load is large, the body's catabolism is strong, protein decomposition is increased, blood urea value is increased significantly, and the increase is not obvious. Through training, the metabolism of lactic acid produced during the decomposition of muscle glycogen is accelerated to reduce the accumulation of lactic acid. In the mid-spring training period, hemoglobin has a downward trend, with little significance, but the changes of short track athletes' training and physical condition are more obvious, which changes with the amount of exercise. After establishing the basic values, the physiological and biochemical indicators tested after each stage of training at all levels were compared with the basic values. People's sports ability and performance are expressed and developed through different levels of action, and the process of sports training is exactly a process of training and optimizing human action performance step by step.

Monitoring is to guide training. The purpose of training is to improve sports ability. There are two physiological bases for improving sports ability, one is stress, the other is adaptation. The changes of stress and adaptation are also reflected by biochemical indicators, as shown in Tables 1 and 2.

Table 1 Adaptive changes of organism after different exercise modes adapting

Sports mode	Post-adaptation changes
Endurance training bone	The number, volume and activity of aerobic oxidase of mitochondria in skeletal muscle cells increased. Maximum oxygen uptake increases oxygen transport and utilization
Strength training	Skeletal muscle volume, phosphate reserve and activity of phosphate metabolic enzymes To improve adaptability
Speed endurance training	The volume of skeletal muscle increased, the activity of glycolytic enzymes increased, and the lactate tolerance increased.

Table 2 The Adaptive Changes of the Body after Different Exercise Styles Stress

Biochemical indexes	Post-adaptation changes
Blood lactic acid	Increase decreases
Blood urea	Increase decreases
Serum CK	Increase decreases
Urine protein	Reduction of discharge: Individual differences should be noted in evaluation
Urinary gallbladder	Decreased discharge

The Hb value is closely related to the physical function and athletic ability of water polo players. Therefore, it is particularly important to accurately grasp the physical function of athletes. Only by understanding the physical function of athletes, can we arrange training plans more scientifically and rationally, and can timely adjust training plans according to the changes of the physical function of athletes. Enhanced protein catabolism not only manifests itself in inadaptability to training, but also extends to the next day or the third or fourth day after exercise. The speed at which it returns to normal is related to the degree of training and the function of the body. The training level is high and the function is good. Decreased blood lactate value may be related to the body's reduction of lactic acid accumulation, accelerated lactic acid clearance, and improved body's resistance to lactic acid. Compared with men and women, there is no obvious difference at each stage, but the

difference between women's winter training and men's winter training is different from that of men. There is no difference, indicating that female athletes are less sensitive to training than men. By comparing the observations of the athletes' training and exercise load in the training class after each stage of training. The special action ability training process is a harmonious interaction and integration process of different levels of action mode, and the action mode can be regarded as the basic standard component module which is layered, produced and optimized in this process.

In order to investigate the trend of changes in CD4+ and CD8+ players after high-intensity training, an athlete was subjected to multiple 3-cycle high-intensity training statistics, and the results shown in Figure 1 were obtained.

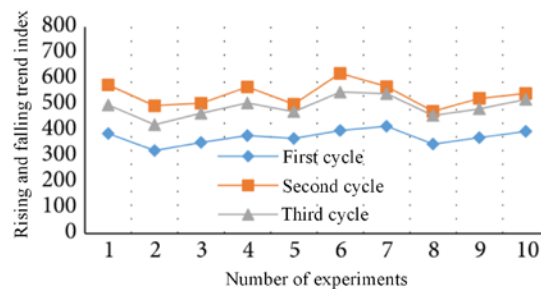


Fig.1. Changes of CD4+and CD8+in Athletes after Three Cycles of Intensive Training

3. Result Analysis and Discussion

A series of physiological and biochemical changes in the human body during exercise are an objective reflection of the body's exercise load, that is, the body's ability to stress exercise training. During training, due to the increased basal metabolic rate of the human body in a hypoxic environment, the blood urea value should be higher than the plain value after quiet and training. The main training strengthens the lumbar muscles, the back muscles, and the single support force on the left side to improve the continuous rotation ability. Secondly, the combination of light, standard and heavy equipment is adopted, and then the density is increased and the throwing amount is increased. It is much smaller in exercise intensity than other athletes, but it can also be found in a similar pattern to other levels: the same is the first time the CK value is much higher than at other times. Therefore, on the basis of macro and micro analysis of the movement pattern of a certain sport, we can design the content structure and training means of the sport training process. This is mainly due to the small amount and intensity of exercise at the beginning of training, which has little effect on the body function. Exercise ability is closely related to heredity. The in-depth study of genetics confirms that the level of human body's function and metabolic ability are influenced by not only acquired factors such as nutrition, disease and exercise training in the course of growth and development, but also congenital genetic factors, some of which are more important.

Blood urea is a kind of nitrogen-containing substance, such as protein and amino acid, which takes off amino acid first in catabolism and metabolism. Ammonia is transformed into urea in liver and is discharged through blood circulation. It is a sensitive index to evaluate athletes' response to training load and fatigue condition. In training, the decomposition method is combined with the complete method. Specific practices are in the power and speed conversion, strength and special technology conversion, light and heavy equipment conversion, Liu Yang has obvious personality characteristics. From the coaches at all levels, we know that during the whole winter training period, the first half of the training period is physical recovery period, the second half of February is the period of increasing training volume, and the second half of February is the period of maximum training volume and exercise load. For example, the coach can arrange a special basic action random change training. Within the limited time and space requirements, the coach randomly issues an action instruction, requiring the athlete to make an action response and change as quickly as possible according to the coach's instruction. As the actual training situation, the training volume and intensity are not particularly large, the serum T value is still relatively low, so it is considered that the player's serum T base value is relatively low. In this case, a nutrient that can effectively

improve the T-based value is sought. The product is more important. If you use in June, the serum T value of the players will increase significantly.

4. Conclusion

Pay attention to the supplement of dietary nutrition, pay attention to the reasonable mix of food, pay attention to increase the supplement of carbohydrates, appropriately reduce the intake of protein and fat, increase the variety of staple foods, eat more beef, lamb, eat less pork; have the right amount of vegetables and fruit intake. The response of various blood biochemical and immunological indicators to specific and different content of heavy load training may be different and may not be synchronized in time. During the training period, the physical and biochemical indicators of athletes should be formulated reasonable test plan and monitored and analyzed comprehensively and systematically. And timely feedback the results to coaches, to provide objective basis for coaches to formulate training plans rationally and scientifically, and to provide guarantee for athletes to successfully complete altitude training tasks. The stress response of human body is an important function of self-protection of the body. This kind of intensive training is a kind of stimulation to athletes. In the sports training system, only by controlling the development of different attributes of movement modes appropriately can the long-term and systematic training process be guaranteed and the long-term successful competition career of athletes be ensured.

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