



The effect of competition stress on the some anaerobic oxidative enzymes and blood (ph)of young handball players

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Lazim. M. Abbas, Mushreq A.T. al-Lamiy

Faculty of Physical Education, University of Qadisiyah
Faculty of Physical Education, University of Qadisiyah
a.lazim@yahoo.com
mu_ma2003@yahoo.com

ABSTRACT

The importance of research is to identify the response enzymes of anaerobic oxidative stress and portability muscle work , especially in the case of the concentration of lactic acid of handball players during physical stress in the competition and the extent of influence on the player's ability to compete in the state increased secretion of anaerobic oxidative enzymes (CPK - LDH) or incompleteness when player exposed some effect on competition or increase the burden physical game or some side effects which might be exposed to the player also during competitions , hence emerged the research problem in the answer to the following question (Do competition stress during the games in the match effect on anaerobic oxidative enzymes and ph blood the handball players and result in this study for their stand on the pros and cons during the competition stress) and this research aims to identify the effect of the stress through the competition on some special anaerobic oxidative enzymes as well as to identify the effect of blood PH on young handball players .The researchers used the descriptive approach being appropriate approach to solve the problem of the research , have been identified research community and they seemed League clubs Iraqi youth handball for the season 2013-2014 , has been selected sample random method they seemed to Club Kufa 's (12) as a player , and was baptized researchers to conduct a reconnaissance for the purpose of identifying the possibility of laboratory tests ,how to take out a mechanism to obtain blood samples from the players, and then has procedures field research sample through the game 's official club team Kufa since been withdrawn blood samples before game at a time and the rest after the first half and the second half and after the existence of the medical staff , who number was equal to the number of players to ensure rapid action and lack of impact on the game and the ease of access to blood samplesTo manage the data to interpret the researcher used several statistical methods (mean, standard deviation, percentage, sprains, test f analysis of variance of the samples correlated, test (LSD) is

less significant difference) In light of the foregoing, the researcher suggested, that there are differences statistically significant between rest periods and after the first half and the second

Keywords: competition stress, anaerobic oxidative enzymes , blood (ph).

1. Introduction

The research importance is to identify the response enzymes oxidative stress anaerobic and portability muscle work , especially in the case of the concentration of lactic acid when handball players during physical effort during the competition and the extent of the effect on the player's ability to compete in the state increased secretion of enzymes oxidative stress anaerobic (CPK - LDH) or decreases when it is exposed to sports in some important effects of competition or increase the burden of the physical game or some side effects which might be exposed to the player also during competition.

2. Methodology

2.1 Subject:

Study community who are players clubs Iraq for the Elite League for season 2013-2014 and the 12 Club and chose the researchers way intentional They seemed to Club Kufa, Najaf,'s (12) players have been a homogeneity of the sample individuals in terms of the (age, weight, height, Age training) and, as in table(1)

(Table 1)
Shows the homogeneity of the sample

Variables	Mean	Deviation	Modulus	Results
Length	177	1,18	0.65	Homogeneous
Weight	69	0.94	0.43	Homogeneous
Age	18.2	087	0.35	Homogeneous
Raining age	4.2	0.57	0,40	Homogeneous

2.2 Measurements and test

The analysis is performed them by the method used and by specialists in the laboratory, according to the enclosed instructions that came with the Ketat and by your analysis, as it is placed samples by Tiobat especially placed where the serum and then placed the device with Ketat a special for each type of enzymes, as well as the procedure is to identify the proportion of (PH) through a blood analysis to determine the level in the blood.

2.3 Main experiment

The main experience made of the research specimen of Friday 24/1/2014, the blood has been taken from the specimen with (5cm) by calling the players the specialists in pulling the blood in a cool box to analyze them in terms of the enzyme concentration and pH level. The pulling of the blood was made three times for each player so the sum of the specimens were 36 specimens.; they are distributed on the physical effort period of (12) player (the research specimen) the pulling of blood as follows:

- 1- before the effort : the blood is taken from the players .
- 2- the first effort : after the ending of the first half .
- 3- the second effort : after the ending of the second half of the match.

2.4 Statistical analysis

The researchers used statistical SPSS bag for (arithmetic mean, standard deviation, percentage, sprains, f test analysis of variance for correlated samples, test (LSD) is less significant difference)

3. Results and Discussion

(Table 2)

Displays the values and standard deviations to measure the level of concentration of enzymatic (CPK, LDH) and (PH) blood before and after the end of the effort the first half and the second half of the game

Variables Measurement	Enzyme (CPK)		Enzyme (LDH)		(PH)	
	Mean	standard deviations	Mean	standard deviations	Mean	standard deviations
Before efforts during rest	111.34	0.888	421.17	0.559	7.38	0.024
After first half	168.15	1.007	564.09	3.787	7.30	0.017
After second half match end	264.46	2.052	778.94	5.117	7.28	0.014

(Table 3)

Shows the F value calculated for the level of concentration of the enzyme (CPK) by the effort and after the end of the first half and the second half of the game

Variables	Variances	Square summation	Freedom Degree	Square average	F value	Significance
CPK Enzyme	Between groups	143808.144	2	71904.072	4033.644	0
	Inside groups	588.261	33	17.826		

(Table 4)

Shows the value of the less significant difference (LSD) to the level of concentration of the enzyme (CPK) by the effort and after the end of the first half and the second half of the game

Variables	Measurement	Mean	Significance
CPK Enzyme	Before effort after first half	56.817	0.00
	Before effort after second half	153.12	0.00
	After first half after second half	96.310	0.00

(Table 5)

Shows the F value calculated for the level of concentration of the enzyme lactic dehydrogenase (LDH) by the effort and after the end of the first half and the second half of the game

Variables	Variances	Square summation	FD	Square mean	F	Significance
(LDH)	Between groups	778352.078	2	389176.039	6326.051	0.00
	Inside groups	2030.146	33	61.52		

(Table 6)

Shows the value of the less significant difference (LSD) to the level of concentration of the enzyme (LDH) by the effort and after the end of the first half and the second half of the game

Variables	Measurement	Mean	Significance
(LDH) Enzyme	Before effort after first half	142.92	0.00
	Before effort after second half	357.77	0.00
	After first half after second half	214.84	0.00

(Table 7)

Shows the F value calculated level (PH) blood before and after the end of the effort the first half and the second half of the game

Variables	Variances	Square summation	Freedom Degree	Square average	F value	Significance
PH	Between groups	0.69	2	0.35	93.231	0.00
	Inside groups	0.12	33	0		

(Table 8)

Shows the value of the less significant difference (LSD) level (PH) blood before and after the end of the effort the first half and the second half of the game

Variables	Measurement	Mean	Significance
(PH)	Before effort after first half	0.077	0.00
	Before effort after second half	0.103	0.00
	After first half after second half	0.025	0.00

(Table 4.3) shows that there are significant differences and variation in the level of concentration of the enzyme CPK blood by the effort and after the first half and the second effort Handball match , as in Figure 1 , the researcher believes that this increase in the concentration of the enzyme naturally what has been through effort brown during the competition and the requisite performance of energy (Mohammed Ali Ahmed Al kut1999-p48-5) , as the increased physical effort also requires the speed of the chemical reactions to release energy for working muscle in line with the high intensity made by the player , and this demonstrates that the increased effort competition for players leads to increased activity of enzymes representation anaerobic as well as increased creatine phosphate , which is linked by the CPK enzyme activity , and this is also the result of the adjustment to the winning players through structured training based on scientific bases and all of these factors contributed to the development in the performance of the player (Safaa Al moraab1987- 4) .

Table (5-6) shows that there are significant differences and variation in the level of concentration of the enzyme LDH blood by the effort and after the first half and the second no end of the game , that the reason for these differences is of course the result of the physical effort of the competition , which resulted in a difference of moral as in Figure (2) , as we find that the level of concentration of the enzyme is on the rise after the first half and the second , and this increase in the effectiveness of the enzyme (LDH) Faasoha researcher that after the end of the role of the anaerobic system - phosphate in the rebuilding of ATP and provide the energy needed for the performance , begins beyond the role of the anaerobic system - lactic rebuild the ATP and provide the energy needed to continue the performance (Bahaa Eddin Ibrahim Salama1999-p28- 3)

Table (7-8) shows that there are significant differences and variation in the level of concentration of blood PH by the effort and after games in the match first and second, and the researcher believes that the differences and variation in the results is the normal condition for the concentration of acids resulting from the process of the production of energy during physical effort and the high concentration of lactic acid, which led to a change in the level of blood PH (Bahaa Eddin Ibrahim Salama 1999- p111- 2). The effort has the effect of competition on the level of concentration of oxidative enzymes and anaerobic blood PH with young handball players, and this is what achieves the research hypotheses.

4. Conclusion

Researchers concluded that all the results were within normal limits in the ratio of concentration in the blood. A competition effort has had a clear impact and directly in the level of concentration of anaerobic oxidative enzymes (LDH - CPK) and blood PH for handball players. However, competition effort influences variously between the effort before and after the first half and the second level of the enzymes and acidic blood. Moreover, the best response to oxidative stress enzymes during anaerobic effort competition was after the second half after the end of any game. Finally, winning adaptation of the response effort as a result of enzymatic competition during the handball match.

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