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FROM DOPING TO A TARGETED SUPPLEMENTATION IN FOOTBALL ATHLETES

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INTRODUCTION

Doping means the use of illegal substances or methods to enhance an athlete's performance. The fight against doping started in Italy in 1954. The first European anti-doping laboratory was founded in Florence in 1960. The first doping controls were carried out during the Olympic Games held in Tokyo in 1964. Our research work was intended to verify whether a food supplement with essential amino acids, antioxidants, B group Vitamins and Magnesium can improve sports performances without being identified as a "doping substance". We know that protein synthesis is best realized if the selected amino acids are administered in a well-defined qualitative-quantitative ratio. The 8 essential amino acids contained in the preparation we tested turned out to be well-balanced. All this resulted in improved protein synthesis.

The special balance of amino acids we tested bypasses the process of deamination, which occurs even if only one of the 8 essential amino acids is absent or if its ratio compared to the other 7 amino acids is not balanced.

Sports activities are stressful events to the organism, which cause a temporary alteration of

metabolic homeostasis. The oxidative stress control ensures the protein integrity of muscles. The presence of the 8 essential amino acids contained in Gunamino Formula exerts a protective and antioxidant action on muscles, and reduces the nitrogenous waste on a systemic level without causing any kidney and liver overload. These characteristics protect athletes from the oxidative stress induced by sports activities and prevent damage due to free radicals. All this is demonstrated by the reduction of muscle injuries and by an optimal prolonged performance.

MATERIALS AND METHODS

25 athletes were randomized and randomly selected among a group of 100 athletes who had been practicing competitive sport for at least 3 years.

The inclusion criteria were based on age and gender. The recommended daily dose of Gunamino Formula Sport was administered for 48 days to all the athletes, who underwent blood test (in order to assess total protein, CPK,

transaminase, serum iron, serum uric acid) and complete urine analysis.

The exercise ECG was programmed with the same workload for everyone. The achieved maximum heart rate was used as a reference to verify the effectiveness of the food supplement. The spirometry put us in a position to evaluate the forced vital capacity and the maximum expiratory volume during the first second.

AIM OF THE STUDY

The aim of this research study was to verify whether what is evident in the references herein can also support the administration of a preparation with amino acids, since it improves the performance of athletes of all sports, especially intensive sports, which require a well-balanced athletic training. Therefore, we evaluated football within the scope of a "school".

RESULTS

Laboratory data confirmed a clear improvement of sports performance. Blood tests showed the absence of CPK changes, while the serum iron levels were stable or higher than the baseline levels.

The blood count remained within normal limits, whereas the maximum respiratory capacity, together with the exercise testing, confirmed a physiological response of the maximum heart rate and of the respiratory capacity. At the start of treatment we observed a decreased fatigue, an increased energy availability and the absence of injuries among the athletes, along with an improved mental and physical shape.

CONCLUSIONS

A careful analysis of the entire athletic training period confirmed a positive performance for all athletes who showed a good playing technique and an excellent performance, without showing signs of fatigue or tiredness, such as cramps or muscle fatigue. The technical staff reported that all the athletes' performances were intense with limited recovery periods; the blood tests confirmed a clear relationship between the modification of the values obtained and the improved performance.

Our research study served to confirm our hypotheses, at a time when Doping is spreading more and more among amateurs, in gyms, in football schools. Finally there is the possibility of using a physiologically tested preparation that is not included in the list of doping substances.

**ADMINISTRATION OF GUNAMINO FORMULA SPORT BEFORE SPORTS PERFORMANCE
18/3/2014**

Athlete	Abdominal circumference (cm)	Heart rate at rest (beats/minute)	AST (I/U)	ALT (I/U)	CPK (I/U)	Total protein (g/dl)	Iron levels (mcg/dl)	Serum uric acid (mg/dl)	Heart rate during performance (beats/minute)
G.G.	89	58	28	22	340	7.40	124	5.20	135
S.B.	80	84	22	24	105	7.55	100	4.12	154
D.C.	80	78	28	18	310	7.20	108	5.80	140
C.G.	76.5	61	18	16	172	7.47	65	5.80	143
F.T.	72.5	54	20	11	176	6.80	60	4.50	137
A.D.	69	75	24	18	193	7.12	76	4.20	145
M.E.	80	64	26	18	240	7.05	114	3.14	138
A.G.	70.5	63	24	18	124	7.15	125	5.50	136
G.G.	88	50	21	18	146	7.22	66	5.90	129
G.R.	74	73	11	10	253	7.10	62	4.40	145
M.R.	66	56	25	22	102	7.26	87	5.60	148
G.S.	79.5	59	25	29	223	6.80	49	4.00	134
G.T.	75	52	29	22	104	7.42	56	6.20	130
G.V	76	66	15	19	193	7.40	41	5.50	142
F.V.	76	70	28	15	122	7.21	59	4.20	147

**ADMINISTRATION OF GUNAMINO FORMULA SPORT AFTER SPORTS PERFORMANCE
23/05/2014**

Athlete	Abdominal circumference (cm)	Heart rate at rest (beats/minute)	AST (I/U)	ALT (I/U)	CPK (I/U)	Total Proteins (g/dl)	Iron levels (mcg/dl)	Serum uric acid(mg/dl)	Heart rate during performance (beats/minute)
G.G.	85	56	26	21	292	7.79	149	5.50	129
S.B.	79.5	76	20	18	102	7.80	112	4.20	145
D.C.	79.5	72	25	12	214	7.36	113	6.50	135
C.G.	76.5	60	20	11	168	7.81	58	6.10	136
F.T.	72	53	19	9	170	7.99	97	5.00	134
A.D.	71	70	21	11	184	6.91	64	4.00	138
M.E.	78.5	62	24	14	202	6.73	161	3.90	133
A.G.	65.5	59	19	15	116	6.79	151	5.20	130
G.G.	87.5	50	20	16	143	7.58	59	5.10	126
G.R.	63	69	15	15	204	6.93	138	4.40	135
M.R.	69.5	54	27	18	99	7.71	91	4.90	138
G.S.	78	56	26	18	265	7.63	148	3.70	129
G.T.	73.5	52	27	23	96	7.21	72	5.40	125
G.V	76.5	58	15	12	201	7.36	115	5.80	135
F.V.	75.5	64	24	14	108	7.56	70	3.80	139

References

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