Physical overstrain in sports: modern prevention and rehabilitation procedure

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Abstract

Objective of the study was to analyze exposures to the microtraumatic disease risks and benefits of Traumel-C for treatment of the microtraumatic-disease-associated impaired local circulation in gorodki players, to facilitate trainings and special fitness improvement efforts.

Methods and structure of the study. We sampled for the study Masters of Sport in gorodki (n=12) [national game similar to skittles, with pins knocked out by throwing a bat]. The sample was tested for microcirculation disorders in the upper limbs by an infrared thermometric DT-639 system, with the pain syndrome self-rated on a visual-analog scale. The detected microcirculation disorders were treated by Traumel-C antihomotoxic medication (made by Heel Co.) with taping.

Results and conclusion. To identify the injury risk factors for gorodki players, we first surveyed their coaches (n= 24). They reported the following common risk factors: idle periods in trainings followed by excessive physical workouts (21%) and mismanagements in combining the training elements (11%); and the following sport-specific risk factors: elbow joint overextensions (32%), and too heavy bats favored by the sport elite (29%).

The surveys identified the core musculoskeletal system chronic overstrain risk factors for the gorodki sport sample and showed benefits of the biological regulation service using te hTraumel-C antihomotoxic medication for the upper-limb microcirculation protection, improvement and post-training rehabilitation purposes. We recommend Traumel-C with taping for application in the gorodki training systems for the upper-limb musculoskeletal system overstrain prevention and sport-specific fitness improvement purposes.

Keywords: *chronic overstrain, risk factors, antihomotoxic medications, prevention, microcirculation.*

Background. Adaptive overstrains in sports are known to trigger disorders and diseases in different systems and organs [4, 7, 11] dominated by chronic overstrain of the musculoskeletal system often resulting in a microtraumatic disease [2]. Repetitive microtraumas are explained by excessive and intensive training/ competitive stresses on the one hand and ineffectiveness of the applied strain prevention and rehabilitation remedies offered by the traditional and or allopathic medicine on the other hand [3]. Such remedies are expected to suppress the inflammatory process and pain syndrome acting as symptomatic in fact and, therefore, often spur up transformations from the acute to chronic process associated with systemic allergic reactions and barriers for the endogenous inflammation-countering mechanisms [10]. Modern biological medicine offers multipurpose toolkits to mitigate inflammations in overstrained tissues. Such toolkits will be customized to the natural individual needs and resources in the regulation, regeneration, adaptation and sanogenetic aspects. Modern biological therapy includes antihomotoxic therapy as one of its components with special benefits for these purposes.

The concept of homotoxicology by H.H. Reckeweg [8, 9] was developed in compliance with the key provisions of the modern connective tissue medicine [1, 6]. The musculoskeletal system overstrain at the in-

flammatory stage is effectively treated by Traumel-C antihomotoxic medication [5] that facilitates the natural protective and counter-inflammatory responses in the connective tissue of the musculoskeletal system to reduce homotoxicosis and activate cytokine regulation with the inflammation suppression and tissue detoxification effects. These combined effects facilitate rehabilitation of microcirculation and temperature homeostasis, with pain reductions [12].

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Furthermore, we profiled the pain syndrome by tests of the gorodki sportsmen (n=44). The tests found the pains mostly in the elbow (70.5%) and shoulder joints (29.5%). We also tested effects of trainings with the heavy competitive bats on the upper-limb microcirculation using the infrared thermometric DT-639 system. The tests were run after the standard 135-min training sessions, with every player making 100-130 bat throws.

Instant adaptation patterns were ranked by the following body temperature variations: good response when the body temperature grows in the tested zone; satisfactory response when it stands virtually the same; and unsatisfactory response when it falls after training. Every such body temperature fall may be indicative of the upper-limb musculoskeletal system

Table 1. *Post-training upper-limb microcirculation/ body temperature test data of the elite sample (n=12)*

Body temperature test zone	People tested with:		
	Unchanged body temperature	Body temperature falls	Body temperature rise
Elbow: internal condyle	2	10	-
Brachioradialis muscle	6	6	-
Round pronator	2	9	1
Deltoid muscle: medial zone	1	1	1

Table 2. *Post-training upper-limb body temperature test data in the Traumel-C application period*

Body temperature test zone	People tested with:		
	Unchanged body temperature	Body temperature fall	Body temperature rise
Elbow: internal condyle	8	4	-
Brachioradialis muscle	7	4	1
Round pronator	8	3	1
Deltoid muscle: medial zone	4	3	5

Table 3. *Post-training elbow body temperature test data with and without tapes (n=12)*

Body temperature test zone	People tested with:		
	Unchanged body temperature	Body temperature fall	Body temperature rise
Non-taped round pronator	1	9	2
Taped round pronator	5	5	2

Table 4. *Post-training pain syndrome test data in the taping experiment (n=12)*

Pain rate	People tested after:	
	Training session 1	Training session 10
No pain	-	-
Slight	3	6
Medium	6	5
Strong	3	1

dysfunction and potential disorder. Given in Table 1 hereunder are the post-training upper-limb microcirculation test data; with the body temperature falls indicative of potential mismanagements in the individual training systems and accumulated backlog in post-training rehabs.

We used the Traumel-C for 14 training days to prevent fatigue-related musculoskeletal system disorders, with the ointment applied 30 minutes prior to every training session by rubbing into the elbow and deltoid muscle. The sample used heavy bats in the trainings. Individual responses to the therapy were as follows: 8 people were tested with satisfactory responses; and 5 people were tested with good responses in the medial fibers of the deltoid muscle: see Table 2.

Later on, we additionally used taping to mitigate/prevent the potential training overstrains, with the tapes fixed so as to limit the elbow extension amplitude. The tape-free subsample (n=9) was tested with the body temperature fall in the round pronator zone – indicative of dysfunctions and poor microcirculation in the test zone as a result of mismanagements in the training systems. The taped subsample was tested with progresses in responses, as only five people were tested with body temperature fall and another five tested with the body temperature standing unchanged; plus four athletes were tested with satisfactory responses due to the antihomotoxic medication and taping procedure: see Table 3.

The pain syndrome in the elbow was rated on a subjective rating scale. The pain syndrome profiling survey found the taping procedure being beneficial for pain syndrome mitigation: see Table 4.

The above pain syndrome tests showed significant pain reductions in the sample for 10 training sessions as a result of the taping procedure.

Conclusion. The surveys identified the core musculoskeletal system chronic overstrain risk factors for the gorodki sport sample and showed benefits of the biological regulation service using te hTraumel-C antihomotoxic medication for the upper-limb microcirculation protection, improvement and post-training rehabilitation purposes. We recommend Traumel-C with taping for application in the gorodki training systems for the upper-limb musculoskeletal system overstrain prevention and sport-specific fitness improvement purposes.

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