

A standard osteoscintigraphy method supposes an intravenous introduction of Technephor-Tc-99m and a polypositional examination in a gamma-camera after a three-hour interval necessary for the preparation fixation in bones and pathological formations. It should be noted that the preparation is excreted through kidneys and, at their disturbed function, which is especially often detected in the patients with metastases at cancerous lesion of prostate gland, the preparation fixation occurs in the distorted pelvic-lyceal system, which can look like a pathological fixation point in lower ribs in many views. In this connection a standard examination was modified by us. The primary administration was exercised directly under the gamma-camera detector resting on the lumbar region to visualize the preparation excretion through kidneys with the first 20 minutes record.

660 metastatic bone lesion suspects were examined. The primary lesion site in 199 patients was diagnosed in the prostate gland, in 279 patients – in mammary gland, in 101 ones – in the womb and ovaries, and 33 – in lungs, in 12 – in the thyroid body (36 patients – other focalizations). In 80% of the cases the patients were followed up after chemotherapy and operative intervention at the primary site. The rest of the patients were sent to be investigated after the initial examination in the Republican Oncologic Dispensary. An X-ray examination was carried out in all the patients beforehand. Thereat, only in 51 patients were supposed to have metastatic processes in the bones. 128 patients were preliminarily examined with the CT.

Due to our investigation: in 573 patients the preparation pathological fixation foci were detected. Most commonly (about 69%) the foci were visualized in the hip bones, back bone (about 60 %), ribs and breast bone (about 443%), limbs (about 21%), cranial bones (about 10%). A single pathologic focus was detected only in 19% of the cases. In the rest situations a multiple affection (from 1 to 12) was detected.

It should be emphasized that in 132 patients (23% of the patients) the detected alterations were wrongly evaluated at the X-ray examinations as degenerative-dystrophic or traumatic ones, or as the alterations of inflammatory character. In 13 patients the osteoscintigraphy method allowed not only verifying the metastatic lesion foci, detected by the CT, but also detecting new, not found out earlier, ones.

The modification of the method with preliminary visualization of kidneys allowed not only detecting the presence of the inadequate filtration-excretion function of kidneys, but also taking the findings into consideration at the following analysis of the focal lesion in the gross per cent of the cases. This data consideration allowed excluding a falsely visualized abnormal fixation focus of the preparation in 51 patients (21 prostate gland cancer patients and 30 patients with a pathological process of other focalizations).

The work was submitted to international scientific conference «Basic and applied research in medicine»,

Nov. 26 - Dec. 4, 2008 China (Beijing). Came to the editorial office 22.10.2008.

WOUND SURFACE DEFENCE METHOD

Volchkova I.S.

*Kazakhstan Medical Academy
Astana, Kazakhstan*

The infectious complications frequency at operations achieves 10%, the operative wound purulence within the structure of infectious complications having the maximal specific density, achieving 48,7%. The dominant cause of it is the abdominal wall wound intraoperative contamination, consisting in the contact diffusion of ascites bacterial population in there. Most often it occurs during the operations performed concerning acute surgical pathologies attended by the hollow organs' destruction. The main, traditionally used method of the abdominal wall wound walls defence is draping with gauze wads. However, it cannot fully prevent from the wound microbial contamination and its following purulence.

We have developed a postoperative pyoinflammatory complication prevention method based on the operative wound defence during the operation. As the draping material we used the carbon containing bandage (CCB).

It is a sorption band based on the activated carbon cloth developed in the city of Perm. The sorption capacity of the CCB material relative to bacterial cells is at the average 17 times higher than that of gauze fabric. The CCB possesses an appreciable quantity of medium and large transport pores, which provide good absorption abilities of the adsorbent with regard to medio- and macromolecular toxins and microbial cells; besides, by virtue of its physical and chemical properties, this adsorbent is promising as a matrix immobilizing medicinal preparations for local action on itself. The gauze wads containing the adsorbent are prepared in advance in the form of a wide strip conforming to the wound width and are autoclaved. Hypochlorite in the concentration of 600 mg/l by dipping into the solution for 10-20 min is immobilized on them just before the use. The drape fixation together with the adsorbent is performed by scarce interrupted stitches towards the aponeurosis edges before the infected abdominal cavity opening.

The wound surface defence from purulent effluent offered by us is easy to use, doesn't stretch out the operation time; the adsorbent appears as an effective carrier of an antibacterial preparation - hypochlorite.

The method has been approved in a clinical unit in 215 patients with operations on the abdominal cavity organs; there were no complications in the postoperative period on the part of the operative wound in this patient group registered.

The work was submitted to international scientific conference «Priorities for Science, Technology and Innovation», Egypt (Sharm el-Sheikh), November, 20-27, 2008. Came to the editorial office on 29.10.2008.

MORPHOFUNCTIONAL FEATURES OF LONG-TERM ADAPTATION AND INDIVIDUAL DEVELOPMENT IN SPORTSMEN

Vysochin Yu.V., Denisenko Yu.P.
Saint-Petersburg State University
Saint-Petersburg, Russia

*Kama State Academy of Physical Culture, Sport and
Tourism*
Naberezhnye Chelny, Russia

Various types of long-term adaptation or individual development are formed at a more or less prolonged effect of some or other adaptogenic factors on the body. In the people with low capacity of inhibitory-relaxation functional system of defence from extreme conditions (IRFSD) irrespective of age the adaptation takes course due to muscle bulk and strength gaining against the skeletal muscles' relaxation low rate, i.e. a **hypertrophic type of individual development** is formed. At the IRFSD medium capacity a **passage type** is formed, and at the IRFSD high capacity a **relaxation type of individual development** is formed. A high relaxation rate and medium muscle strength indexes are indicative of this type (Vysochin Yu.V., 1988; Denisenko Yu.P., Vysochin Yu.V., 2002).

Considerable morphofunctional alterations at long-term adaptation touch not only the neuromuscular, but all the other systems of the body as well. In the hypertrophic type people the hyperexcitability and the CNC inhibitory systems' low activity are registered, the hyperkinetic (uneconomical) blood circulation type (CT) and highly disharmonious constitutional type prevail. The cardiac performance low economical efficiency, a higher level of energy consumption at rest and at testing loads, an increased concentration of energy exchange metabolites, adrenalin and stressor hormones, but a lower level of noradrenalin and anabolic steroids at rest and loads in blood, low stress and anoxia tolerance, a reduced immunological resistance, high incidence of disease and traumatism are indicative for them.

The relaxation type of individual development is the most profitable in all intents. For relaxation type persons the CNC exciting and inhibitory processes' balance, high rate of muscles' relaxation, excellent regulation and movement coordination, perfect reaction to moving objects, that guarantees the sport, everyday and street traumatism minimization, are specific. The most economical – eukinetic circulation type prevails in them, the cardiac performance high economical efficiency, the minimal level of energy

consumption, a decreased concentration of energy exchange metabolites in blood, a high rate of reparative processes and resynthesis of energy resources, excellent physical performance and stamina prevail in them. They excel with an increased stress tolerance, twice or trice as seldom they are subject to overwork and diseases, as compared to the hypertrophic type persons. Relaxation type sportsmen, as contrasted with hypertrophic type ones, enjoy considerably greater sport longevity, stand physical and psychological stresses far easier, are subject to various overworks, traumas and diseases 8-10 times as seldom and achieve the highest sport results (Vysochin Yu.V., Lukoyanov V.V., 1987; Denisenko Yu.P., 2007).

With the increase of skeletal muscles' voluntary relaxation rate (VRR) and the formation of relaxation type of long-term adaptation the sport traumatism decreases progressively from 95-100% (at the VRR less than 4,01/sec) to 5-0% (at the VRR more than 9,01/sec) and, therefore, their health improves the same progressively. Our multiyear investigations testified that even in the most traumatic kinds of sport, one can almost fully make away with injuries (except for the traumas emerging at gross violation of game rules by the rival) due to the correct organization of the work-out session aimed at the CNC nervous processes' balance normalization, muscles' VRR increase and long-term relaxation type formation.

References:

1. Vysochin Yu.V. Physiological mechanisms of defence, stability and physical performance improving in extreme conditions of sport and professional activity: thesis work of Dr. Sc. (Medicine) – L.: VMA named after S. Kirov, 1988 – p. 550.
2. Vysochin Yu.V., Denisenko Yu.P. Modern ideas of physiological mechanisms of urgent adaptation of sportsmen's body to muscle loading actions // Theory and practice of physical culture – 2002 – N7 – pp. 2-6.
3. Vysochin Yu.V., Lukoyanov V.V. Active muscle relaxation and self-regulation in sport: Monograph – SPb.: SAPC named after P.F. Lesgaft, 1997 – p. 85.
4. Denisenko Yu.P. Muscle relaxation in the system of football players' training: Synopsis of a thesis of Dr. Sc. (Biology) - M., 2007 – p. 48.

The work was submitted to international scientific conference «Priorities for Science, Technology and Innovation», Egypt (Sharm el-Sheikh), November, 20-27, 2008. Came to the editorial office on 17.10.2008.