ли следующие: 0.74, 0.23, 0.03 в контрольной группе и 0.84, 0.13, 0.02 в группе больных ИБС, соответственно.

Установлено, что носительство генотипа С/Т (OR=0,51 95%CI 0,30-0,87, P<0.045) SNP rs7412 было ассоциировано с повышенным риском развития ИБС (эф-фект кодоминирования) независимо от пола и возраста. Частоты генотипов А/А, А/Г и Г/Г rs4420638 LPA были следующие: 0.74, 0.24, 0.01 в контрольной группе и 0.69, 0.29 и 0.02 в группе больных ИБС, соответственно. Статистически значимых различий в частотах аллелей и генотипов SNP rs4420638 гена APOE между группами больных ИБС и контроля не установлено (P>0.05). Полиморфные варианты rs7412 и rs4420638 гена APOE находились в неравновесии по сцеплению друг с другом (D'=0.5891, P<0.0024). Выявлено три гаплотипа С-А, С-Г и Т-А APOE с частотами: 0.73, 0.13 и 0.14 в контрольной группе и 0.75, 0.16 и 0.08 среди больных ИБС, однако, статистически значимой ассоциации гаплотипов с повышенным риском развития ИБС выявлено не было.

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Rovniy D.A., Kudryashova Y. A., Sivakova. E.V.

Functional profile of the asymmetry of water polo player of different qualification.

*Kuban State University of Physical Education, Sport and Tourism
(Russia, Krasnodar)*

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Abstract

The article is dedicated to the analyses of the functional profile of the asymmetry, which is a very important criteria for determining the effectiveness of high sport achievements. The results of the research are based on the study of the asymmetry of 33 water polo player For determining lateral preferences of motor and sensory function.

Keywords: water polo, asymmetry, water polo player, highly - skilled athletes.

Water polo is one of the most beautiful and dynamic sports, the athlete's playing activity is full of emotions and quick change of events. A water polo player always combines the qualities of a good swimmer, a rugby player, and he must have an extraordinary thinking to achieve tactical goals and perform trainer's tasks. The regulation of athlete's complicated coordination activity is determined by the functional state of the neuromuscular apparatus, by the development of motor centers, their coordination and integration, as well as by the degree of development of the motor analyzer.

The study of inter-hemispheric asymmetry is used to optimize human activity, in particular, to improve and individualize the training process in top-level sports [1, p. 636-672; 2, p. 1-65]. As many studies have shown, an individual asymmetry profile (IAP) characterizing a person's motor activity depends on age characteristics and also can be changed under the action of sports training [3, p.74-82; 4, p.55-58].

The coaches of leading foreign water polo teams sometimes use IAP for conducting sports equipment and distributing players according to game roles, which helps to increase the effectiveness of training and competitive activities [4, p. 55-58; 5, p. 74-81]. However, official studies of the IAP of water polo players of various qualifications were not found by us.

The purpose of this work was to identify the features of the functional profile of sensory and motor asymmetries of water polo players of various qualifications. 33 water polo players of various qualifications were examined: 11 athletes had 1 youth category, 11 water polo players had I category, 10 were candidates for the Master of Sports (CCM), one person had the title of Master (MS). For evaluating the laterality of the paired bodies of water polo players of various qualifications, we used the method suggested by N.N. Bragina and T.A. Dobrokhotova (1994). The test program was adapted by E.M. Berdichevskaya (1999). The list of these tests included 53 samples for determining lateral preferences of motor and sensory functions.

It was revealed that the majority of young water polo players had an “absolutely right” version of the IAP (64%), with a leading right leg, hand, eye and ear. The “cross” variant of IAP was encountered in 18% of the subjects under study (ppLp), with a leading right foot, hand, ear, but left eye. Only one athlete from all studied had a leading left arm, leg and ear, but the right eye. Absolute right-handers were absent.

When examining qualified water polo players who had 1 rank, a completely different picture was observed, so the “absolutely right” type of IAP was found in 18.2% of water polo players, a similar percentage had a “mixed” IAP variant (pALp) and one person was identified with cross option (pppp) and (ppLL). Most of the athletes were identified with a “predominantly right” IAP (45.4%), with a leading right hand, an eye and an ear, but with symmetry of the legs (pApp).

In determining the IAP with highly skilled athletes we found that the majority (54.5%) of the athletes had a “predominantly right” version of the IAP (pApp). In addition, 18.2% of the subjects had a “mixed” version of the IAP (PALp), and one person from all those studied had the “absolutely right” version of the IAP (pppp), the “mostly right” version of the IAP (pppL) and one “clean lefty (LLLL).

As a result it can be assumed that under the influence of sports selection in the national teams preference is given to athletes with a “predominantly right” individual asymmetry profile, who have observed lower extremity symmetry, characterized by the same number of motor units involved in the work, non-inferior lower limb. As a result athletes are less fatigued compared to other types of IAP water polo riders. Also the most important result of our research was the identification of a “pure left-handed person”, since only 3% of people all over the world have full dominance of the right hemisphere [6, p. 127; 7, p. 225-234]. Coaches of national water polo teams try to invite athletes with a leading left hand to their team, as they are more effective on the right flank and are capable of extraordinary thinking and coping with the coach’s tactical setups.

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