68 - DIAGNOSIS OF THE PREDOMINANCE OF THE TYPE OF MUSCULAR FIBER OF THE BRAZILIAN ELECTION OF CANOE SLALOM THROUGH THE DERMATOGLiPHYCS.

HEROS RIBEIRO FERREIRA
Physical teacher of the Brazilian Election of Canoe Slalom - CBCa/Brazil
College of Superior Education of Is Miguel of the Iguaçu - Paraná/Brazil
heros@cbca.org.br

Introduction

The esqueletics muscles can on the basis of be divided in classrooms the histoquimics characteristics or biochemists of individual staple fibers. Description, the muscular staple fibers had been classified in two general categories: (1) fast staple fibers or (2) slow staple fibers, Buchthal & Schmalbruch, (1970); Burke, (1986); Edgerton, (1983); apud Powers; Howley (2000). Although, currently, studies have demonstrated the existence of 7 distinct types of muscular staple fibers: I, IIA, IIB, IIAB, IIAC, IIC, IC, Vrbova, (1992); Pette, (1992); apud Fry et al (2003).

Sharkey (1998), affirms that an immense genetic influence in relation to the topologic of fiber exists, which consequently will influence many physical 0 variable. The influence of the training in relation the certain capacities is limited, placing itself enters 15 25% according to Denadai (1999); Weineck (2000).

Some national studies had been carried through with intention to verify the dermatogliphycs profile of athlete of high level in diverse sportive modalities as: futsal, Dantas & Fernandes Filho (2002), volleyball, Medina & Fernandes Filho (2002); triatlo, Angels et al (2003); Olympic gymnastics, João & Fernandes Filho (2002); soccer of field, Castanhede et al (2003); runners of resistance, Carvalho et al (2003), and Canoagem Slalom, Ferreira & Fernandes Filho (2005).

In accordance with the classification gotten for the characteristics of the drawing of the fingerprint, is possible a project that provides to associations related to the genetic predisposition for the verification of the type of muscular fiber and performance in determined physical qualities according to Fernandes Filho (1997).

Objectives

This research searches to verify the type of predominant muscular fiber, gotten through the dermatoglifia, in athlete of high income of the canoe slalom. The present work takes care of to the norms for the accomplishment of research with human beings, as the orientation of the National Advice of Health, respecting itself the Lines of direction and Norms Regulamentadoras de search involving human beings, effective from 10 of October of 1996, Resolution nº 251, and approved in the Committee of Ethics in Research.

Materials and Methods

For these study 15 athletes of high income, integrant of the Brazilian Election of Canoagem Slalom, all volunteers had been selected of intentional form, with age of 17,9 ± 3,29 years. Flegner & Dias (1995), samples in accordance with chosen of intentional form are necessary when it is needed that the participant individuals present similar characteristics. For the characterization of the sample the verifications of age had been carried through, weight and height.

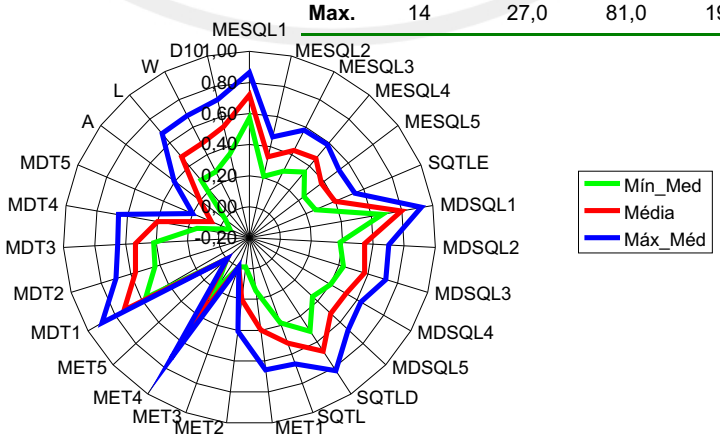
For the determination of the type of muscular fiber the Dermatoglífico method was chosen de Cummins & Midlo apud Fernandes Filho (1997). For the verification of the weight and stature a scale with estadiômetro was used (FILIZOLA-BRASIL).

For the verification of the fingerprints a micro porous digital cushion was used, model 250 (IMPRESS-BRASIL) It was analyzed through the descriptive statistics, in which the average values and derivatives for the values of continuous nature had been observed.

Results

The group of evaluated athlete presented the characteristics, presented in Table

	N	Idade	Peso	Estatura
X	14	17,9	65,4	170,3
S	14	3,29	6,47	6,16
Min.	14	15,0	55,0	161,0
Max.	14	27,0	81,0	190,0



The fiber IIa type, also known as slow glicolitycs fiber, possess characteristics biochemists and of fatigue that if IIb type and type I find between staple fibers. Therefore, conceptually, the IIa staple fibers when trained of aerobic form they present bigger characteristics of the oxidativo system, according to Powers & Howley (2000).

Conclusion

The analysis of the results allows observing that drawings L predominate in relation to drawing W, presented as changeable of the dermatoglifia. Segundo Abramova et al (1995) a high index of D10 and SQTL if correlates with the reinforcement of the dominant coordination and resistance. Maximum values of D10 and SQTL are guided for the acentuacion of the coordinating qualities of the organism".

As Ferreira & Fernandes Filho (2005) the predominance of L represents speed characteristics and drawings W represent resistance characteristics, visa the innumerable qualitative combinations of the dermatoglifia".

In accordance with Wilmore and Costill (2001), the composition of alone muscular staple fibers, does not constitute a determinative factor of the sportive success in events of endurance, speed and force, therefore other elements can influence as: the cardiovascular function, the motivation, the training, the size of the muscles, among others factors.

The results had allowed to conclude that the athletes of the Brazilian Election of Canoe Slalom, evaluated present, in accordance with dermatoglíphycs parameters, glicolíticas staple fiber predominance in relation the oxidativas.

One suggests that for the raised joined number of SQTL, a predominance of the fast glicolitycs fiber in relation to the slow glicolitycs fiber exists.

One sends regards that other studies are carried through involving dermatoglíphycs parameters in different modalities in order to perfect the planification of training.

Bibliographical references:

ABRAMOVA, T.F.; NIKITINA, T.M.; OZOLIN, N.N. Possibilidades das impressões dermatoglíficas no prognóstico dos potenciais energéticos nos atletas que praticam remo. **Atualidades na preparação de atletas nos esportes cíclicos**. Coletâneas de artigos científicos. Volvograd, 1995. P.57-61.

ANJOS M.; FERNANDES FILHO J.; NOVAES, J. Características somatotípicas, dermatoglíficas e fisiológicas do atleta de triatlo. **Fitness & Performance.** Vol. 2 (1): p. 49-57. 2003.

CARVALHO, E.; FERNANDES FILHO J.; NOVAES, J. **Características somatotípicas, dermatoglíficas e fisiológicas dos atletas de alto rendimento, participantes de corrida de resistência do Rio de Janeiro.** 2003

CASTANHEDE, A.; DANTAS, P.; FERNANDES FILHO, J. Perfil dermatoglífico, e somatotípico de atletas de futebol de campo masculino, de alto rendimento, no Rio de Janeiro. **Fitness & Performance.** Vol. 2 (4): p. 234-239. 2003.

DANTAS, P.; FERNANDES FILHO, J. Identificação do perfil genético, de aptidão física e somatotípico que caracterizam atletas masculinos, de alto rendimento, participantes do futsal adulto no Brasil. **Fitness & Performance.** Vol. 1 (1): p. 28-36. 2002.

DENADAI B. **Índices fisiológicos de avaliação aeróbia:** conceitos e aplicações. 1999.

FERNANDES FILHO, J. **Descoberta de Talentos. Treinamento Desportivo,** RJ: Ed. Shape, 2003, v.1, n.2. CD-ROM.

_____.**Impressões Dermatoglíficas:** Marcas Genéticas na Seleção dos Tipos de Esportes e Lutas (a exemplo de desportistas do Brasil). Tese (Doutorado). Moscou, URSS. 1997.

FERREIRA, H.F. & FERNANDES FILHO, J. Diagnóstico do Potencial Genético da Seleção Brasileira de Canoagem Slalom. **21° Congresso Internacional de Educação Física - FIEP/2005**, Foz do Iguaçu, Brasil, 2005.

FLEGNER, A. & DIAS, J. **Pesquisa Metodológica:** Manual Completo de Pesquisa e Redação. Rio de Janeiro: Centro de Capacitação do Exercito, 1995.

FRY, A.; WEBBER, L.; WEISS, L.; HARBER, M.; VACZI, M. & PATTISON, A. Muscle fiber characteristics of competitive power lifters. **J. Strength Cond. Res.** V. 17 (2): p.402-410. 2003.

JOÃO, A.; FERNANDES FILHO, J. Identificação do perfil genético, somatotípico e psicológico das atletas brasileiras de ginástica olímpica feminina de alta qualificação esportiva. **Fitness & Performance.** Vol. 1 (2): p. 12-20. 2002.

MEDINA M. & FERNANDES FILHO, J. Identificação do perfil genético, e somatotípico que caracterizam atletas de voleibol masculino adulto de alto rendimento no Brasil. **Fitness & Performance.** Vol. 1 (4): p. 12-20. 2002.

POWERS, S. K.; HOWLEY E. T. **Fisiologia do Exercício:** Teoria e Aplicação ao Condicionamento e ao Desempenho, São Paulo. Manole, 2000.

SHARKEY, B. **Condicionamento Físico e Saúde.** 4 ed. Porto Alegre. Artmed. 1998.

WEINECK J. **Biologia do Esporte.** São Paulo. Manole.2000.

WILMORE, J. H.; COSTILL, D. L. **Physiology of Sport and Exercise**. Champaign: Human Kinetics. 2001.

Endereço: Rua: Quito - Beverly Falls Park - Paraná - Brasil Cep: 85858-070
Tel.: (0xx45) 35735135

DIAGNOSIS OF THE PREDOMINANCE OF THE TYPE OF MUSCULAR FIBER OF THE BRAZILIAN ELECTION OF CANOEING SLALOM THROUGH THE DERMATOGLYPHIA.

ABSTRACT

The objective of this study was to verify the predominance of the type of muscular fiber through the dermatoglyphic. The sample was composed for 15 individuals, integrant athletes of the Brazilian Election of Canoeing Slalom, with average age of 17,9 ± 3,29 years and following measured the anthropometrics ones: weight 65,4 ± 6,47, stature 1,70 ± 6,16. For the determination of the type of fiber the Dermatoglyphics method was used, of Cummins and Midlo, 1942 apud Fernandes Filho, to get the type of drawing of the fingerprints (SQTL =140,3 ± 39,9; D10 = 12,2 ± 2,14; L>W=46,7%; L=W=20%; 10L=13,3%, AL=13,3% and ALW=6,7%). The used statistical treatment was the description. The results had allowed in accordance with concluding that the athletes of the Brazilian Election of Canoeing Slalom present, Dermatoglyphics parameters, glicolytics staple fiber predominance in relation the oxidative. One suggests that for the raised joined number of SQTL; a predominance of the fast glicolytics fiber in relation to the slow glicolytics fiber exists.

Key words: Muscular Fiber, Dermatoglyphics and Canoeing.

DIAGNOSTIC DE LA PRÉDOMINANCE DU TYPE DE FIBRE MUSCULAIRE DE L'CÉLECTION BRÉSILIENNE DE CANOEING SLALOM PAR LE DERMATOGLYPHIA.

SOUSTRAYEZ

L'objectif de cette étude était de vérifier la prédominance du type de fibre musculaire par le dermatoglyphic. L'échantillon s'est composé pour 15 individus, athlètes intégrants de l'élection brésilienne de Canoeing Slalom, avec l'âge moyen du 17,9 ± 3,29 ans et après a mesuré l'anthropometrics ceux: 1,70 ± 6,16 de stature du poids 65,4 ± 6,47. Pour la détermination

du type de fibre la méthode de Dermatoglyphics a été employée, de Cummins & Midlo, l'apud 1942 Fernandes Filho, pour obtenir le type de schéma des empreintes digitales (SQTL =140,3 ± 39,9; D10 = 12,2 ± 2,14; L>W=46,7%; L=W=20%; 10L=13,3%, AL=13,3% et ALW=6,7%). Le traitement statistique utilisé était la description. Les résultats avaient permis selon conclure que les athlètes de l'élection brésilienne du présent de Canoeing Slalom, les paramètres de Dermatoglyphics, prédominance de fibre d'agrafe de glicolytics dans la relation l'oxydant. On suggère cela pour le nombre jointif augmenté de SQTL; une prédominance de la fibre rapide de glicolytics par rapport à la fibre lente de glicolytics existe.

Mots clés: Fibre musculaire, Dermatoglyphics et Canoeing.

DIAGNOSIS DEL PREDOMINIO DEL TIPO DE FIBRA MUSCULAR DE LA ELECCIÓN BRASILEÑA DE CANOEING SLALOM CON EL DERMATOGLYPHIA.

ABSTRAIGA

El objetivo de este estudio era verificar el predominio del tipo de fibra muscular con el dermatoglyphic. La muestra fue compuesta para 15 individuos, atletas integrant de la elección brasileña de Canoeing Slalom, con la edad media del 17,9 ± 3.29 años y después de midió el anthropometrics unos: 1,70 ± 6,16 de la estatura; del peso 65,4 ± 6.47. Para la determinación del tipo de fibra el método de Dermatoglyphics fue utilizado, Cummins y Midlo, de apud 1942 Fernandes Filho, para conseguir el tipo de dibujo de las huellas digitales (SQTL =140,3 ± 39,9; D10 = 12,2 ± 2,14; L>W=46,7%; L=W=20%; 10L=13,3%, AL=13,3% y ALW=6,7%). El tratamiento estadístico usado era la descripción. Los resultados habían permitido de acuerdo con concluir que los atletas de la elección brasileña del presente de Canoeing Slalom, parámetros de Dermatoglyphics, predominio de la fibra de grapa del glicolytics en la relación el oxidative. Uno sugiere eso para el número unido levantado de SQTL; un predominio de la fibra rápida del glicolytics en lo referente a la fibra lenta del glicolytics existe.

Palabras claves: Fibra muscular, Dermatoglyphics y Canoeing.

DIAGNÓSTICO DA PREDOMINÂNCIA DO TIPO DE FIBRA MUSCULAR DA SELEÇÃO BRASILEIRA DE CANOAGEM SLALOM ATRAVÉS DA DERMATOGLIFIA.

RESUMO:

O objetivo deste estudo foi verificar a predominância do tipo de fibra muscular através da dermatoglifia. A amostra foi composta por 15 indivíduos, atletas integrantes da Seleção Brasileira de Canoagem Slalom, com idade média de 17,9 ± 3,29 anos e as seguintes medidas antropométricas: peso 65,4 ± 6,47, estatura 1,70 ± 6,16. Para a determinação do tipo de fibra utilizou-se o Método Dermatoglífico, de Cummins e Midlo, 1942 apud Fernandes Filho, para se obter o tipo de desenho das impressões digitais (SQTL =140,3 ± 39,9; D10 = 12,2 ± 2,14; L>W=46,7%; L=W=20%; 10L=13,3%, AL=13,3% e ALW=6,7%). O tratamento estatístico empregado foi o descritivo. Os resultados permitiram concluir que os atletas da Seleção Brasileira de Canoagem Slalom apresentam, de acordo com parâmetros dermatoglíficos, predominância de fibras glicolíticas em relação as oxidativas. Sugere-se que pelo elevado número encontrado de SQTL, existe um predomínio da fibra glicolítica rápida em relação à fibra glicolítica lenta.

Palavras-chaves: Fibra Muscular, Dermatoglifia e Canoagem.