186 - DERMATOGLYPHICS, SOMATOTYPE, STRENGTH AND SEXUAL MATURATION OF IFTO STUDENTS

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INTRODUCTION

To discover sportive talents is necessary that the athlete has body, mind e psychomotor to perform a specific sport modality. In this way, great results are only reached when being connected to a more efficient and complete to the more suitable for the individual (MENEZES & FERNANDES FILHO, 2006).

The dermatogliphics dimensions identifies genetics characteristics of a individual through fingerprints associated to the predominant basic physical quality inherent to itself and interconnected to the sport modalities, becoming a valuable instrument to detect sport talents in Brazil and also around the world, because by this way it possible orienting the best training to the best athlete (FERNANDES FILHO, 1997).

Fernandes Filho (1997) believes that the utilization of genetic marks, in the sportive, allows a probability of high degree of success in the early orientation phase and in the initial sport selection and homologates that the fingerprints model leads to a more suitable choice in the sport specialization and also gives a better perspective of optimization when related to the individual talent.

The somatotypical dimensions represents the human body type and body composition (FERNANDES FILHO, 2003; MARINS & GIANNICHI, 2003; NORTON & OLDS, 2005), which can be related to the motor performance, because it can be observed that the high performance athletes show similar somatotype by sport modality and game position, presuppose that the identified individuals with similar dimensions will have better chance of success in sport (FERNANDES FILHO, 2003). Besides, it can be recognized if the individual has a genetic tendency to obesity, muscularity or skinny and by this way it's possible to make an intervention in the environmental factors with a certain degree of precision, associating them to the genetic factors, transforming the practice of physical education more productive and with higher results.

The identification and the inherent basic physical qualities evaluations of many sport practice become fundamental for the individual physical preparation. Therefore, it is necessary the specific physical tests application to the several basic physical qualities for checking the initial stage of them, which will give the support to a training program planning (MACÊDO, 2003).

The explosive strength defined by Marins & Giannichi (2003); Tubino (1979) as being the capacity of perform maximum of energy on an explosive act, has become the basic quality chosen for the study, because is considered a basic physical quality present in many sport modalities as example athletics, soccer, handball, basketball, volleyball and others (MARINS & GIANNICHI, 2003; COSTA ET. AL., 2006).

All sport has a anthropometric, somatotype, dermatogliphics and physical aptitude profile that favors the success, this way, is more probable that someone who shows these characteristics has a better chance of success. Therefore, the high performance athlete can be a model for people who practice this sport (FERNANDES FILHO, 2003; FILIN & VOLKOV, 1998).

The sport performance is the result of environmental and hereditary factors, which have differenced influence by periods of age. There are periods that the environmental factors have more influence than hereditary and there are periods which occurs the opposite. In children and adolescents the developing of the basic physical qualities, emphasized here the explosive strength, it doesn't only depend on chronological age but also of the individual rhythmus of maturation. Therefore, it can't be consider study of sexual maturation when intend to study explosive strength in students from 14 to 17 years old(FERNANDES FILHO, 2003).

This study has the objective identify the dermatogliphics, somatotypical characteristics, the strength and the sexual maturation test of students from 14 to 17 years old from both sexes.

MATERIALS AND METHODS

The present study was descriptive in accordance with Thomas, Nelson and Silverman (2007) proposal, characterized by concerns with the status. The analyzed sample in this study was composed by 195 students, 115 masculine and 80 feminine, officially registered in the Education, Science and Technology Federal Institute of Tocantins – IFTO, Campus of Araguatins-Brazil, in the age bracket from 14 to 17 years old. The sample selection process was casual random type, because all the students, who have filled the inclusion and exclusion criteria, had the opportunity to participate in the data collecting.

The protocol to determinate the dermatogliphics characteristics was the Dermatogliphics Method of Cummins & Midlo (1961). In this method, fingerprints are obtained and their posterior processing are for analysis, verifying:

A) the draw type of each finger: Arch “A”, draw without deltas; Loop “L”, one delta draw; Whorl “W”, two deltas draws;

B) the quantity of lines in each finger and the TRC, the total ridge count found in the fingerprints of the ten fingers;

C) the quantity of draws of different types found in the palms and the D10, sum of delta quantity found in the fingerprints of the ten fingers;

D) the types of digitals formulas which indicate the representation in the individuals of different combinations of types of draws in the ten fingers.

The somatotypical characteristics was determinate by the Heath-Carter method (Fernandes Filho, 2003, p. 118-126). This method consists in the calculus of the three somatotypical components– Endomorphism, Mesomorphism and Ectomorphism. This method contains a r = 0.98, that makes them safe for the proposed evaluation (CARTER & HEATH, 1990). Besides the standard equations for each somatotypical component was necessary to utilize the protocols to measure the body mass, height, corrected mid-arm perimeter, corrected leg perimeter, skinfold, subscapular, triciptal, supraspinatus, calf medial and biepicondilar bone diameters of humerus and femur.

To determinate the explosive strength in the lower limbs were utilized the Sargent Jump Test (Vertical Jump) and the Standing Broad Jump (Horizontal Jump), which indirectly measure the muscular strength of the lower limbs. The tests have respectively r = 0.93 and r = 0.96, that make them safe for the proposed evaluation (FERNANDES FILHO, 2003).

The Sexual Maturation was determinate by the Matsudo (2005) proposal. In this case, the student has received a

picture with the maturational stage description. After that, the student has to make a self analysis to identify his/her maturational stage in accordance with the presence of pubic hairs, describe by TANNER (1962), in that P1 is pre-puberty; P2, P3 and P4 is puberty; P5 and P6 is post-puberty. The result was given in P1, P2, P3, P4, P5 or P6, and delivered to the researcher in charge. For study purposes, the following instruments have been utilized:

Welmy Nacional Estadiometer connected with a scale for biometric exam with precision of 1 cm, to determinate the height of the students.

Welmy Nacional scale for biometric exam with precision of 0,1 kg and capacity from 0 to 150 kg, to determinate the students' body mass.

Sanny scientific Adipometer, with precision of 0,1 mm, and measuring field from 0 to 78 mm, to measure the skinfold of the students.

Sanny Medical Starret Anthropometrical yardstick with precision of 0,1 cm, to measure body perimeter of the students.

Sanny Small Anthropometric Paquimeter, resolution in millimeters, field of usage from 0 to 300 mm, made by anodized aluminum and polycarbonate jaws, to measure the bone diameters of the students.

Tramontina Metric yardstick of 5 m made by tempered steel, with precision of 0,1 cm, to measure the horizontal and vertical Jumps of the students.

To collect fingerprints of the students was necessary: paper of medium density and roughness; 15 x 25 cm metallic plate; 15 x 25 cm wooden plate; ink for fingerprints; rubber; magnifying glass; water and soap.

This research follows rigorously the criteria proposed by the National Health Council resolution 196/96, dated on October 10th 1996, because has attended all the Norms Related to Researches in Human Beings, being approved by the Ethic Committee of the Castelo Branco University in protocol nº 103/2009.

RESULTS AND DISCUSSIONS

The results of the dermatogliphics, somatotypical, strength and sexual maturation characteristics of the masculine students of the IFTO are showed in TABLE 1 and feminine in TABLE 2.

TABLE 1 – DERMATOGLIPHICS, SOMATOTYPICALS AND STRENGTH CHARACTERISTICS OF THE MASCULINE STUDENTS OF IFTO

	Age (years)	D10	TRC	Endo morphism	Meso morphism	Ecto morphism	Vertical Jump (cm)	Horizontal Jump (cm)	Maturational Stage
N	115	115	115	115	115	115	115	115	115
Mean	15.3	12.5	118.9	2.17	4.25	3.48	41.5	192.9	4.4
Deviation Pattern	1.1	3.5	43.1	1.11	1.50	1.41	6.9	21.1	0.8
Standard Error	0.1	0.3	4	0.10	0.14	0.13	0.6	2	0.1
Minimum	14	1	5	0.77	0.96	0.1	25	130	2
Maximum	17	19	228	6.66	10.14	6.47	58	243	6

TABLE 2 – DERMATOGLIPHICS, SOMATOTYPICALS AND STRENGTH CHARACTERISTICS OF THE FEMININE STUDENTS OF IFTO

	Age (years)	D10	TRC	Endo morphism	Meso morphism	Ecto morphism	Vertical Jump (cm)	Horizontal Jump (cm)	Maturational Stage
N	80	80	80	80	80	80	80	80	80
Mean	15	11.6	107.5	3.96	3.79	2.78	32.6	158.7	4.7
Deviation Pattern	1.1	4	46.7	1.53	1.19	1.24	6.7	28	0.7
Standard Error	0.1	0.5	5.2	0.17	0.13	0.14	0.7	3.1	0.1
Minimum	13	0	0	1.23	1.09	0.1	20	91	2
Maximum	17	20	186	8.03	6.78	5.10	53	250	6

The intermediate values of D10 and TRC level found in both sexes are similar to the found by Klein and Fernandes Filho (2003) in students from 10 to 13 years old in the Puberty Maturational Stage and of the masculine are also similar to the found by Medina and Fernandes Filho (2002) when they have studied volleyball high performance athletes in Brazil.

The somatotypical dimensions of masculine students showed in TABLE 1 are similar to the found by Barbosa et. al. (2007) in students from 7 to 17 years old in the maturational stages PIII and PIV.

The feminine students somatotype found in TABLE 2 are similar to the found by Macêdo and Fernandes Filho (2003) when they have studied children from 9 to 14 years old in different maturational stages.

The strength found in masculine students in the Vertical Jump in TABLE 1 were superior, while the feminine in TABLE 2 were similar to the found by Galdino et. al. (2005) in bodybuilders with age bracket 23,3 1.7 years old in comparative research between the explosive strength of the lower limbs before and after the passive flexing.

The feminine Sexual Maturation of the students found in TABLE 2 was similar to the found by Costa, Alves and Gomes (2006) when they have studied infantile feminine swimming athletes with age bracket 12.3 1.2 years old. The sexual maturation of both sexes found in TABLE 1 and TABLE 2 are similar to the found by Fortes and Castro (2002) when they have studied children and adolescents swimmers in the age bracket between 7 and 17 years old.

CONCLUSION

The dermatogliphics, somatotypical, strength and sexual maturation characteristics defined in the IFTO students, making possible a sportive orientation more adjusted in accordance with its individual characteristics and the comment of the profiles known for each sportive modality of high qualification. The study it allowed to observe similarity among the dermatogliphics characteristics in both the sexos, a predominance of the component mesomorfismo in the masculine group and endomorphism in the feminine group, a small superiority of the masculine group in relation to the feminine group in the force tests and equivalence among the sexos in relation to the maturational stage.

REFERENCES

BARBOSA EL, Araújo Filho MA, Montenegro RC, Sousa JB, Dantas PMS, FERNANDES FILHO, José. Maturação sexual: análises das medidas antropométricas e somatotípicas de escolares. Fitness and Performance Journal, v. 6, n. 1, p. 10-13, 2007.

CARTER, J. E. L., HEATH, B. H. Somatotyping – development and applications. Cambrigde Studies Biological Antropology. Londres: Cambridge University Press. 1990.

COSTA, S. X. da; ALVES, R; GOMES, A. L. M. Estudo comparativo entre o estágio maturacional e a força de atletas de natação na categoria infantil feminino. Fitness & Performance Journal, v. 5, nº 1, p. 30-37, 2006.

CUMMINS, H., MIDLO, C. Palmar and plantar dermatogyphics in primates. Philadelphia, 1942.

FERNANDES FILHO, J. A prática da avaliação física. 2. ed. Rio de Janeiro: Shape, 2003.

FERNANDES FILHO, J. Detecção e orientação do talento esportivo. In: DANTAS, Estélio Henrique Martin. A prática da preparação física. 5.ed.Rio de Janeiro: Shape, 2003.

FERNANDES FILHO, J. Impressões dermatoglíficas - marcas genéticas na seleção dos tipos de esporte e lutas (a exemplo de desportistas do Brasil) [tese]. Moscou; Instituto de Investigação Científica de Cultura Física e Esportes da Rússia; 1997.

FERNANDES FILHO, J. Treinamento desportivo: descoberta de talentos [CD ROM]. Rio de Janeiro: Shape; 2003.

FILIN, V.P., VOLKOV, V.M. Seleção de talentos nos desportos. Londrina: Midiograf; 1998.

FORTES, Marcos de Sá Rego, CASTRO, Carmen Lúcia Natividade de. Composição corporal, nível maturacional e desempenho motor em crianças e jovens nadadores. Fitness and Performance Journal, v. 1, n. 4, p. 42-50, 2002.

GALDINO, L. A. S., NOGUEIRA, C. J., CÉSAR, E. P., FORTES, M. E. P., PERROUT, J. R., DANTAS, E. H. M. Comparação entre níveis de força explosiva em membros inferiores antes e após flexionamento passivo. Fitness and performance journal, v. 4, n. 1, p. 11-15, 2005.

KLEIN, C. M. O. Relação entre a dermatoglifia, as qualidades físicas e o nível maturacional de escolares adolescentes de ambos os sexos. Dissertação de Mestrado em Ciência da Motricidade Humana – Rio de Janeiro: Universidade Castelo Branco. 2003.

KLEIN, CMO., FERNANDES FILHO, José. Relação entre dermatoglifia, as qualidades físicas e o nível maturacional de escolares adolescentes de ambos os sexos. Fitness and Performance Journal, v. 2, n. 6, p. 321-329, 2003.

MACÊDO, Mauro Moraes. Identificação das características dermatoglíficas, somatotípicas e das qualidades físicas básicas das crianças de 9 a 14 anos de acordo com os diferentes níveis de maturação sexual. Dissertação de Mestrado em Ciência da Motricidade Humana – Rio de Janeiro: Universidade Castelo Branco. 2003.

MACÊDO, MM., FERNANDES FILHO, José. Estudo das características dermatoglíficas, somatotípicas e das qualidades físicas básicas nos diversos estágios de maturação sexual. Fitness and Performance Journal, v. 2, n. 6, p. 315-320, 2003.

MARINS, João Carlos Bouzas, GIANNICHI, Ronaldo Sérgio. Avaliação e prescrição de atividade física: guia prático. 3. ed. Rio de Janeiro: Shape, 2003.

MATSUDO, Victor Keihan Rodrigues. Testes em ciências do esporte. 7. ed. São Paulo: Gráficos Buriti, 2005.

MEDINA, Mário Felizardo, FERNANDES FILHO, José. Identificação do perfis genético e somatotípico que caracterizam atletas de voleibol masculino adulto de alto rendimento no Brasil. Fitness & Performance Journal. v. 1, n. 4, p. 12-20, 2002.

MENEZES, Luciana de Souza; FERNANDES FILHO, José. Identificação e comparação das características dermatoglíficas, somatotípicas e qualidades físicas básicas de atletas de GRD de diferentes níveis de qualificação esportiva. Fitness & Performance Journal. v. 5, n. 6, p. 393-401, 2006.

NORTON, Kevin, OLDS, Tim. Antropométrica: um livro sobre medidas corporais para o esporte e cursos da área da saúde. Porto Alegre: Artmed, 2005.

THOMAS, Jerry R., NELSON, Jack K., SILVERMAN, Stephen. Métodos de pesquisa em atividade física. 5 .ed. Porto Alegre: Artmed, 2007.

TUBINO, Manuel José Gomes. As qualidades físicas na educação física e desportos. 3.ed. ver. São Paulo: Ibrasa, 1979.

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DERMATOGLYPHICS, SOMATOTYPE, STRENGTH AND SEXUAL MATURATION OF IFTO STUDENTS

ABSTRACT

One of the phases of the sportive orientation is the profiles identification, this way, all sports have a anthropometric, somatotype, dermatogliphics and physical aptitude profile that favors success, making more probable that someone with these characteristics have a better chance of success (FERNANDES FILHO, 2003; FILIN & VOLKOV, 1998). The CUMMINS & MIDLO (1961) Dermatogliphics Method has been utilized; somatotypical evaluation by the HEATH-CARTER (1967) technique; Maturational Auto-evaluation of the pubic hair by the Method proposed by TANNER (1962) and MATSUDO (2005); STANDING BROAD JUMP and SARGENT JUMP TEST has been done. The studied dermatogliphics characteristics were D10 = 12.5 3.5 and TRC = 118.9 43.1 in masculine students (n = 115) and D10 = 11.6 4 and TRC = 107.5 46.7 in feminine students (n = 80). The somatotypical characteristics were Endomorphism = 2.17 1.11, Mesomorphism = 4.25 1.50 and Ectomorphism = 3.48 1.41(Meso-ectomorph) in the masculine group and Endomorphism = 3.96 1.53, Mesomorphism = 3.79 1.19 and Ectomorphism = 2.78 1.24(Endomorph Mesomorph) in the feminine group. The strength were Vertical Jump= 41.5 6.9 and Horizontal Jump = 192.9 21.1 in the masculine group and Vertical Jump = 32.6 6.7 and Horizontal Jump = 158.7 28 in the feminine group. The Sexual Maturation has been P = 4.4 0.8 in the masculine group and P = 4.7 0.7 in the feminine group. The results were similar to the found by Barbosa et. al. (2007), Medina and Fernandes Filho (2002), Klein and Fernandes Filho (2003), Macêdo and Fernandes Filho (2003), Costa, Alves and Gomes (2006) and Fortes & Castro (2002). The studied students between 14 to 17 years of IFTO have show dermatogliphics, somatotypical, strength and sexual maturation characteristics compatibles with their age bracket.

KEYWORDS: Dermatoglyphics, Somatotype and Students.

DERMATOGLYPHIQUE, SOMATOTYPE, FORCE ET MATURATION SEXUELLE DES ÉTUDIANTS Á IFTO

RÉSUMÉ

Une phase de l'orientation sportive est l'identification des profils, chaque sport a un profil anthropométrique, somatotypique, dermatoglyphique et de conditionnement physique qui favorisent la réussite, ce qui rend plus probable que quelqu'un avec ces caractéristiques ont une plus grande chance de succès que l'inverse. (FERNANDES FILHO, 2003; FILIN &

VOLKOV, 1998) La méthode dermatoglyphique de CUMMINS & MIDLO (1961) a été utilisée; Évaluation Somatotypique pour la Technique de HEATH-CARTER (1967); Auto-évaluation de la maturation des poils pubiens par la méthode proposée par TANNER (1962) et MATSUDO (2005); Ont été effectuées STANDING BROAD JUMP et SARGENT JUMP TEST. Les caractéristiques dermatoglypehiques étudiées ont été D10 = 12.5 3.5 et SQTL = 118.9 43.1 en élèves de sexe masculin (n = 115) et D10 = 11.6 4 e SQTL = 107.5 46.7 en eleves de sexe féminin (n = 80). Les composantes somatotypiques était Endomorphisme = 2.17 1.11, Mésomorphisme = 4.25 1.50 et Ectomorphisme = 3.48 1.41(Mésoectomorphique) pour les hommes et Endomorphisme = 3.96 1.53, Mésomorphisme = 3.79 1.19 et Ectomorphisme = 2.78 1.24(Endomorphique Mésomorphique) pour les femmes. Les force trouvée était Saut Vertical = 41.5 6.9 et Saut Horizontal = 192.9 21.1 pour les hommes et Saut Vertical = 32.6 6.7 et Saut Horizontal = 158.7 28 pour les femmes. La Maturation Sexuelle était P = 4.4 0.8 pour les hommes et P = 4.7 0.7 pour les femmes. Les résultats étaient similaires à celles constatées par Barbosa et. al. (2007), Medina et Fernandes Filho (2002), Klein et Fernandes Filho (2003), Macêdo et Fernandes Filho (2003), Costa, Alves et Gomes (2006) et Fortes e Castro (2002). Les étudiants à IFTO entre 14 ans et 17 ans à l'étude a montré dimensions dermatoglyphes, somatotypiques, de force et maturation sexuelle conforme à leur groupe d'âge.

MOTS CLÉS: Dermatoglyphique, Somatotype et étudiants.

DERMATOGLIFIA, SOMATOTYPIA, FUERZA Y MATURACIÓN SEXUAL DE LOS ESTUDIANTES DEL IFTO

RESUMEN

Una fase de la orientación deportiva es la identificación de los perfiles, logo todo deporte tiene un perfil antropométrico, somatotipico, dermatoglifico y de aptitud física que favorecen el suceso, tornando más probable que alguien con estas características tenga mayor chance de suceso que o contrario (FERNANDES FILHO, 2003; FILIN & VOLKOV, 1998). El Método Dermatoglifico de CUMMINS & MIDLO (1961) ha sido utilizado; Evaluación somatotipica por la Técnica del HEATH-CARTER (1967); Auto-evaluación maturacional da pilosidad pubiana por el Método propuesto por TANNER (1962) y MATSUDO (2005); STANDING BROAD JUMP y SARGENT JUMP TEST han sido realizados. Las siguientes características dermatoglificas han sido estudiadas D10 = 12,5 3,5 y SQTL = 118,9 43,1 en los escolares del sexo masculino (n = 115) y D10 = 11,6 4 y SQTL = 107,5 46,7 en los escolares del sexo femenino (n = 80). La somatotipia han sido Endomorfismo = 2,17 1.11, Mesomorfismo = 4,25 1,50 y Ectomorfismo = 3,48 1,41(Mesoectomorfico) en el grupo masculino y Endomorfismo = 3,96 1,53, Mesomorfismo = 3,79 1,19 y Ectomorfismo = 2,78 1,24 (Endomorfo Mesomorfo) en el grupo femenino. La fuerza han sido Salto Vertical = 41,5 6,9 y Salto Horizontal = 192,9 21,1 en el grupo masculino y Salto Vertical = 32.6 6.7 e Salto Horizontal = 158.7 28 no grupo feminino. A Maturación Sexual ha sido P = 4,4 0,8 en el grupo masculino y P = 4,7 0,7 en el grupo femenino. Los resultados han sido semejantes a los encontrados por Barbosa et. al. (2007), Medina y Fernandes Filho (2002), Klein y Fernandes Filho (2003), Macêdo y Fernandes Filho (2003), Costa, Alves y Gomes (2006) y Fortes y Castro (2002). Los escolares entre 14 a 17 años del IFTO estudiados han presentado características dermatoglificas, somatotipo, fuerza y maturación sexual compatibles con su faja etaria.

PALABRAS-CLAVE: Dermatoglifia, Somatotypia e Escolares.

DERMATOGLIFIA, SOMATOTIPIA, FORÇA E MATURAÇÃO SEXUAL DOS ESCOLARES DO IFTO

RESUMO

Uma fase da orientação esportiva é a identificação de perfis, logo todo esporte tem um perfil antropométrico, somatotípico, dermatoglífico e de aptidão física que favorecem o sucesso, tornando mais provável que alguém com estas características tenha maior chance de sucesso que o contrário. (FERNANDES FILHO, 2003; FILIN & VOLKOV, 1998) Foi utilizado Método Dermatoglífico de CUMMINS & MIDLO (1961); Avaliação somatotípica pela Técnica de HEATH-CARTER (1967); Auto-avaliação maturacional da pilosidade pubiana através do Método proposto por TANNER (1962) e MATSUDO (2005); Foram realizados STANDING BROAD JUMP e SARGENT JUMP TEST. As características dermatoglíficas estudadas foram D10 = 12.5 3.5 e SQTL = 118.9 43.1 nos escolares do sexo masculino (n = 115) e D10 = 11.6 4 e SQTL = 107.5 46.7 nos escolares do sexo feminino (n = 80). Os componentes somatotípicos foram Endomorfismo = 2.17 1.11, Mesomorfismo = 4.25 1.50 e Ectomorfismo = 3.48 1.41) no grupo masculino (Mesoectomórfico) e Endomorfismo = 3.96 1.53, Mesomorfismo = 3.79 1.19 e Ectomorfismo = 2.78 1.24 no grupo feminino (Endomorfo Mesomorfo). A força encontrada foi Salto Vertical = 41.5 6.9 e Salto Horizontal = 192.9 21.1 no grupo masculino e Salto Vertical = 32.6 6.7 e Salto Horizontal = 158.7 28 no grupo feminino. A Maturação Sexual foi P = 4.4 0.8 no grupo masculino e P = 4.7 0.7 no grupo feminino. Os resultados foram semelhantes aos encontrados por Barbosa et. al. (2007), Medina e Fernandes Filho (2002), Klein e Fernandes Filho (2003), Macêdo e Fernandes Filho (2003), Costa, Alves e Gomes (2006) e Fortes e Castro (2002). Os escolares entre 14 a 17 anos do IFTO estudados apresentaram resultados para dermatoglifia, somatotipia, força e maturação sexual compatíveis com sua faixa etária.

PALAVRAS-CHAVE: Dermatoglifia, Somatotipia e Escolares.

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