108 - THE RELATIONSHIP BETWEEN TIBIAL TORSION AND PATELLOFEMORAL INSTABILITY

ANA PAULA DOS SANTOS CHAVES; RINA MÁRCIA MAGNANI;
DANIEL CHAVES LACERDA RIBEIRO; AFONSO SHIGUEMI INOUE SALGADO
ESCOLA DE TERAPIA MANUAL E POSTURAL, LONDRINA, PARANÁ - BRASIL

INTRODUCTION

The subject chosen for the present research was "Relation of the torsional Tibial Angle and the femoralpatellar Instability". One knows that the structures of our body are interrelated. If a structure is modified, will be able to influence the relation of contact and function of another one.

According to Kannus, McIntyre and Robertson, about 50% of the injuries musculoskeletal they involve the joint of the knee, being the most common injury the dysfunction to femoralpatellar (HIGA et al., 2002). In accordance with Calais-Germain, (1992), it must be because the stability is weak of the osseous point of view, being assured, mainly, for the ligament and muscle systems, and receives repercussions from the two regions in way which is sited, the foot and the hip. Malone, Poil and Nitz, (2000), and Starkey and Ryan, (2001), tell that the efforts spent for the foot to adapt itself to the ground and the footwear, and for the hip, for the adaptations to the weight of the body, influence of decisive form in the functioning of the knee and the structures that compose it.

The patella's functioning depends on a delicate balance between ligaments and muscles, because of the osseous instability. When this balance is affected, an inadequate displacement, or more commonly occurs a lateral displacement of patella. According to Andrews, Harrelson and Wilk, (2000), Dandy, (2000), and Moore and Dalley, (2001), the complications of the lateral displacement occur more frequently in women. To Dandy, (2000), and Hebert et al., (2003), the dislocation can appear in the adolescence. For Fox and Cerny, the femoralpatellar dysfunction affects mainly adolescent and young adult of the feminine sex (HIGA, et cols., 2002).

Disturb can have origin above or below the affected structure, as Andrews, Harrelson and Wilk, (2000). Thus, it could be ascending or descending. Then the necessity to relate the functioning of other structures, and not only aims the region where definitive alteration occurs.

The objective of the present study was to investigate the relation of the tibial twist with the femoralpatellar joint to in individuals that presented femoralpatellar instability. The study was consisted, therefore, of an assessment of the femoralpatellar joint and the position of the tibia in these patients, in order to verify the relation and the possible alteration of the position of the tibia in this knee dysfunction.

METHODOLOGY

The sample was composed for patellar instability patients, directed by the doctor for the Physical Therapy service of the Physiovitta Clinic, in Porto Alegre/RS, Brazil, in order to join through physical therapy treatment.

The sample was not probabilistic intentional type, being constituted by 20 patients, without distinction of sex, all directed with medical diagnosis of femoralpatellar instability.

The patients who presented the of any another associated alteration as: trocanter injury, musculoskeletal deformities, congenital deformities, neurological illness, history with previous surgeries in the member affected, diagnosis of injuries of the knee or proceeding from postoperative of knee, obesity, automatically would be excluded from the research. The same person had evaluated the patients.

The research was carried through in the period of 28 of October of 2003 the 05 of April of 2004.

The patients if had only submitted to the study in a session, in view of that the research only consisted of an evaluation. After the assent free and clarified of the patient to participate of the research, was collected its history, including questions on previous injuries, dislocation, pain, practical of physical activity, and to follow, the physical examination was carried through. As the obesity was one of the factors of exclusion of the research, to validate the study, the calculation of the corporal mass index (CMI), through the weight and height of the patient, data these, related for the proper one. The IMC are gotten dividing the weight for the height to the square (CMI = weight/ height ^{2}).

In accordance with Wilmore & Costill, (2001), the values considered for overweight are above of 38 for men and 34 for women. Although McArdle, Katch & Katch, (1998), relate that this consideration is for values above of 30, no patient of the sample presented this characteristic, being, therefore, all enclosed ones in the study.

Another important item was the measurement of the length of the inferior members, to verify if it had discrepancy between the same ones. The measurement of the length of the inferior members is made through the metric ribbon, with the patient in orthostatic position. To verify the real discrepancy between the inferior members, an extremity of the ribbon is located in the anterior-superior iliac spine (ASIS) and to another one in maleolus medial. For the apparent discrepancy, the metric ribbon if extends of the umbilical scar until maleolus medial. The measurement is carried through in both inferior members, in order to compare sides (COHEN & ABDALLA, 2003; HEBERT et al., 2003). Magee, (1997), explains even so that a difference enters the members of 1 the 1,5 cm is considered normal, if it must remember that exactly this difference can provoke pathological symptoms. The measures had been considered normal, as much in the measurement of real length how much in the apparent one, therefore the enclosed patients in the research had been all.

The physical examination was constituted still by: test of apprehension, measurement of the quadriceps angles (Q angle) and torsional tibial. The Test of Apprehension establishes the patellar instability, which is an attempt to determine the individual's reaction to a forced patellar lateral motion. It is carried through with the patient in dorsal position and the extended knee. The examiner tries to move patella until the possible point most lateral, taking care of not to cause dislocation. The result will be positive if the individual to contract quadriceps intensely to protect itself against the dislocation to patellar or to reveal its apprehension (COHEN & ABDALLA verbally, 2003; STARKEY & RYAN, 2001; DANDY, 2000).

Later, the measurement of the quadriceps angle or Q angle was carried through to determine the approach passage patella. This angle describes the relation enters the line of traction of quadriceps and the line of the ligament, since the average point of patella until its insertion in tibial tuberose (CAMPBELL, 2003; COHEN & ABDALLA, 2003; STARKEY & RYAN, 2001; SMITH, WEISS & LEHMKUHL, 1997).

In the present research, the measurement was carried through with the patient in dorsal position and the extended knee. As literature, became fulfilled a mark in the iliac spine anterior-superior (ASIS), in the average point of patella and in the tibial tuberose. To follow, goniometry was located in way that its axle was located on the average point of patella, the center of the fixed arm on the line that goes of the EIAS until patella and the mobile arm on the line that starts in patella and goes until the tibial tuberose.

To follow, it was become fulfilled measurement of the tibial torsional angle, also known in French literature as transmaleolus angle (GAILLET, 1994), to verify the tibia position. For this measurement, the patient in orthostatic position, puts the foot in a leaf, where the contour is exactly drawn and is marked a referring perpendicular point to each maleolus. When the patient removes the foot of the leaf, is traced two straight lines for the measure of the angle. The first straight line is made binding the points of the maleolus, and second it is traced passing for maleolus lateral, parallel to the third line, in the posterior base of the calcaneus. Then measurement with goniometer of the angle is formed between first and second straight line (MAGEE, 1997; SMITH, WEISS & LEHMKUHL, 1997).

For the angles Q and torsional tibial measurement, the goniometer used was the universal manual with complete circle (ANDREWS; HARRELSON; WILK, 2000).

RESULTS

The statistics analysis of this work was carried through program SPSS (Statistical Package will be Social Science). The variables had been presented in the form of frequency and percentage. For association between the femoralpatellar instability and the tibial position alteration was tested the prevalence of occurrence of the last one on the first one against a hypothetical population where the occurrence probability would be of 50%. It was considered description of the frequency of the alteration of the tibial position being the binomial. The interval of 95% for such frequency was calculated. In case that the estimate to the interval of the percentage of occurrence of alteration of the tibia position did not contain the hypothetical percentage of 50%, the observed percentage was considered as being significantly different.

It enters the 20 evaluated patients in the study, 80% were of feminine sex and 20% of the masculine sex. The age band varied of 20 the 54 years, with average of 30,2 years of age.

The bilateral femoral patellar instability was present in 70% of the patients, while 30% presented unilateral instability, being 15% in left knee and 15% in the right knee (15%).

Fifty percent (50%) of the studied patients already had patellar dislocation episodes.

For the Q angle, 10% of the sample did not demonstrated alteration. However, 90% presented the measures of modified Q angle. In the MID, angle Q it varied of 10º 26º, having a average of 19,7º and shunting line standard of ± 4,02. The MIE presented variation of 10º 26º in angle Q, with average of 21,85º and shunting line standard of ± 3,61.

The measures of the tibial torsional angle had varied of 3º 12º in the right foot, with average of 6,5º and shunting line standard of ± 2,8. In the left foot, the variation was of 2º 16º, with average of 7,25º and shunting line standard of ±3,86. Or either, in accordance with the used references, 100% of the sample presented alteration of the tibial torsional angle to the right and only 10% presented normal angle to the left.

All unilateral or bilateral patients who had presented with the instability diagnosis, either, with positive test of apprehension (I joined bilaterally or) and alteration in the Q angle, all had presented internal tibial twist (angle varied between 0º and 13º). Thus, the ratio of people with instability to femoralpatellar that they had presented alteration in the position of the tibia (100% in right ankle and 90% in the left ankle) was significantly bigger that a hypothetical distribution of 50% for the two ankles ($p<0,05$). It was verified, then, that the tibia presents its modified position, in internal twist in the patients with instability to femoralpatellar, therefore, its relation in this found so common riot in the joint of the knee can be affirmed.

DISCUTION

In accordance with Andrews, Harrelson and Wilk, (2000), Dandy, (2000), and Moore and Dalley, (2001), the complications of the lateral displacement occur more frequently in women, as if it could perceive in this research.

According to Dandy, (2000), and Hebert et al., (2003), the dislocation can appear in the adolescence. In this study, the riot between adult young adult individuals e met.

For Fox and Cerny, the mainly adolescent dysfunction to femoralpatellar affects adult and young of the feminine sex (HIGA, et cols., 2002). Dandy, (2000), and Hebert et al., (2003), also justify that it especially occurs in the feminine sex because the girls have more untied ligaments and lesser bones.

Starkey and Ryan, (2001), explain that the dislocation of patella if characterizes for an obvious deformity, in which patella suffer a lateral shunting line. Loudon, the Bells and Johnston, (1999), complete relating that the dislocation to patellar occurs when have rupture of the patellafemoral joint where patella if disarticulates of femur, in general, laterally. Kapandji, (2000), says that normally, patella only is dislocated from top to bottom and not transversally. In fact, patella very is well incased in its crack for quadriceps, but how much bigger it is the flexion, in the end of the extension, this force of cooptation also diminishes in hyperextension with trend to invert itself, that is, to dislocate patella of the troclea. At this moment, patella tends if to dislocate for it are because the quadriceps tendon and the ligament to meniscus-patellar obtuse forms an open angle for is, but what it really hinders the dislocation of patella for is the external face of the much more prominent troclea of that the intern. Moore and Dalley, (2001), explain that the dislocation to patellar occurs, almost always, for the lateral. And the medial snatch force, more horizontal, of the medial vast muscle, counterbalances this force. Moreover, condilus lateral of femur possess a previous projection and a deeper inclination for facet lateral greater of patella. E for this reason, exists a restriction mechanics for the lateral dislocation.

Kapandji, (2000), affirms that a congenital malformation will be had, the external face of the troclea less is developed (equal or less prominent of the one than the intern), therefore, patella is not enough fixed and if dislocate for is during the complete extension, characterizing the mechanism of the recidivate dislocation of patella. Loudon, the Bells and Johnston, (1999), as well as Starkey and Ryan, (2001), also relate that the dislocation to patellar can be of congenital origin. Therefore, they had been discarded patients with congenital deformities for this research.

The angle Q represents an important item of an evaluation of the joint to femoralpatellar because its measurement determines the approach passage of patella, describing the relation enters the line of traction of quadriceps and the line of the ligament to patellar, since the average point of patella until its insertion in tibial tuberose (CAMPBELL, 2003; COHEN & ABDALLA, 2003; HEBERT et al., 2003; STARKEY & RYAN, 2001; WATKINS, 2001; FULKERSON, 2000; KISNER & COLBY, 1996). The values above of 13º, in the masculine sex, and of 18º, for the feminine sex, are considered as alteration of the angle for the measurement with the extended knee, in accordance with Campbell authors, (2003); Cohen and Abdalla, (2003); Starkey and Ryan, (2001); Watkins, (2001); Hebert et al., (2003). These had been the used values as references for this research.

According to Starkey and Ryan, (2001), and Strobel and Stedtfeld (2000), bigger angles Q increase the forces applied on facet to patellar lateral, retinaculus patellar medial and embroider lateral of femoral tróclea e, secondary to an increase of the lateral landslide of patella. It stress it of contact of the patellafemoral joint is defined as the force of the compression applied for unit of contact area. Andrews, Harrelson and Wilk, (2000), and also Strobel and Stedtfeld, (2000), explain that 45º e stress it of maximum contact reaches a peak of 35º approximately, to follow, decline to the measure that the extension continues, because of the angle of the reduced knee. It stress it of contact is influenced by increases or reductions of angle Q, that can produce higher an irregular distribution of the pressure with stress maximum in some areas and lack relative of load in others.

In accordance with Camanho, (1996), the increase of angle Q accents the valgus effect of contraction of quadriceps. This valgus effect of the quadriceps contraction explains the fact of the dislocations of patella to be always lateral.

Soares, cited for Magalhães, (2003), and also in accordance with Kapandji, (2000), explains that the dislocation if gives for the external twist of the tibia, then below of femur, as well as genus valgus, that when closing the angle between the quadriceps tendon and the ligament to patellar, increases the component directed for is and favors the external instability of patella. These are factors of external dislocation and sub-dislocation.

Magalhães, (2003), believes that our body is entirely linked, where any musculosKeletal disequilibrium intervenes all with the postural standard, or either, a muscular disequilibrium not compensating, will be associated with others.

Other authors also consider that the inadequate alignment of the bones of the inferior extremity can contribute for a disequilibrium or desplacement in another region of the body. These inadequate alignments would include the increase of the vector in the knee in valgus, the ante version of the colon of femur and external tibial twist (ANDREWS; HARRELSON; WILK, 2000; MOORE & DALLEY, 2001; STARKEY & RYAN, 2001).

McConnel, Souza and Gross, and Zappala et al., affirm that the dysfunction to femoralpatellar includes factors as increase of angle Q, external tibial twist, pronation to subtalar and the disequilibrium enters the portions of the muscle quadriceps (HIGA et cols., 2002).

To relate the alteration of the position of the tibia with the instability to femoropatelar, the tibial torsional angle was evaluated, that, according to Inman, literature sample that the average values of the tibial torsional angle in adults are of 20 23º, with extensive variation of -4 +56º (SMITH; WEISS; LEHMKUHL, 1997). The Smiths, Weiss and Lehmkuhl, (1997), relate that the measurements made for students in Kinesiology lessons, however, give in average between 10 and 15º torsional tibial. The lines normally are not parallel bars, but instead of this, they form an angle of 12º 18º, due to lateral rotation of the tibia (MAGEE, 1997).

In literature, many graduations for the normality of the angle meet. For Andrews, Harrelson and Wilk, (2000), the normal value is considered as being approximately 13º 18º torsional external tibial, values these, used as references for this research.

As if it could observe, this study it got resulted divergent for the tibial torsional angle, where authors explain that the dislocation mechanism can occur due to extreme external rotation of the tibia. This can have to the fact of that in literature, the authors are few who describe the accomplishment of the measurement of the angle, and thus, the diverse cited graduations appear.

CONCLUSION

The instability to femoropatelar is one of the clutters most frequent of the joint of the knee, being able to affectsr this structure joined bilaterally or, being more common the bilateral affect, as it occurred in this research, where had occurrence in 70% of the cases.

As verified literature and in this study, the riot affect more the feminine sex, in adult age band young e.

One concluded that the desplacement of the structures and the anatomical alterations have relation in the instability to femoropatellar, therefore the factors investigated in this research if they had found modified. The alteration of angle Q demonstrated the desplacement to patellar and the alteration of the tibial torsional angle pointed the internal rotation of the tibia.

As seen in this research, many graduations for the tibial torsional angle exist. It is suggested, then, that a new study is carried through, correlating with the other values to analyze the significance statistics.

It is suggested, still, that other studies are carried through in order to verify the occurrence of alterations in the joints of the hip and to subtalar and dysfunction of the vast muscle medial oblique in patients with instability to femoropatellar, as argued for the cited authors. This because the structures of our body are related and must be carried through a complete evaluation with the patients better to trace the treatment.

BIBLIOGRAPHY

ANDREWS, J. R.; HARRELSON, G. L.; WILK, K. E. **Reabilitação Física das Lesões Desportivas**. 2.ed. Rio de Janeiro: Guanabara Koogan, 2000.
CALAIS-GERMAIN, B. **Anatomia para o Movimento:** Introdução à análise das técnicas corporais. V. 1, São Paulo: Manole, 1992.
CAMANHO, G. L. **Patologia do Joelho.** [s.e.], São Paulo: Sarvier, 1996.
CAMPBELL-S, W. **Operative Orthopaedics.** V. 3. Canale: Tenth, 2003.
COHEN, M.; ABDALLA, R. J. **Lesões nos Esportes:** Diagnóstico, Prevenção, Tratamento. [s.e.], Rio de Janeiro: Revinter, 2003.
DANDY, D. J. **Ortopedia e Traumatologia Prática:** Diagnóstico e tratamento. 2. ed. Rio de Janeiro: Revinter, 2000.
FULKERSON, J. P. **Patologia da Articulação Patelofemoral.** 3.ed. Rio de Janeiro: Revinter, 2000.
GAILLET, J. C.; **Syllabus Cours de Podoposturologie.** [s.e.], France, 1994.
HEBERT, S.; XAVIER, R.; PARDINI Jr., A. G.; BARROS FILHO, T. E. P.; [et al.]. **Ortopedia e Traumatologia:** Princípios e Prática. 3. ed. Porto Alegre: Artmed, 2003.
HIGA, M. N.; GROSSO, D. B.; BÈRZIN, F.; GIL, I. A.; MONTEIRO-PEDRO, V.; NUNES, C.V. **Efeito do exercício isométrico de extensão do joelho associado à adução isométrica do quadril na atividade elétrica dos músculos VMO e VL em indivíduos portadores de disfunção femoropatelar.** Publicado em dezembro de 2002. Disponível em <http://www.grupodojoelho.com.br/artigos> Acessado em 17 de setembro de 2003.
KAPANDJI, A. I. **Fisiologia Articular:** Esquemas Comentados de Mecânica Humana. V. 2, 5. ed. São Paulo: Panamericana, 2000.
KISNER, C.; COLBY, L. A. **Exercícios Terapêuticos:** Fundamentos e Técnicas. 3. ed. São Paulo: Manole, 1996.
LOUDON, J. K.; BELL, S. L.; JOHNSTON, J. M. **Guia Clínico de Avaliação Ortopédica.** [s.e.], São Paulo: Manole, 1999.
MAGALHÃES, S. A. **Desequilíbrio Estático: Joelho Geno Valgo na Obesidade Infantil**. Publicado em janeiro de 2003. Disponível em <http://www.programapostural.com.br/artigos.htm>. Acessado em 04 de junho de 2003.
MAGEE, D. J. **Orthopedic Physical Assessment.** 3. ed. W. B. Saunders Company, 1997.
MALONE, T.; Mc POIL, T.; NITZ, A. J. **Fisioterapia em Ortopedia e Medicina no Esporte.** 3. ed. São Paulo: Santos, 2000.
MCARDLE, W. D.; KATCH, F. I.; KATCH, V. L. **Fisiologia do Exercício:** Energia, Nutrição e Desempenho Humano. 4. ed. Rio de Janeiro: Guanabara Koogan: 1998.
MOORE, K. L.; DALLEY, A. F. **Anatomia Orientada para Clínica.** 4. ed. Rio de Janeiro: Guanabara Koogan: 2001.
O'SULLIVAN, S.B.; SCHMITZ, T.J. **Fisioterapia:** Avaliação e Tratamento. 2. ed. São Paulo: Manole, 1993.
SMITH, L. K.; WEISS, E. L.; LEHMKUHL, L.D. **Cinesiologia Clínica de Brunnstrom.** 5. ed. São Paulo: Manole, 1997.
STARKEY,C.; RYAN, J. **Avaliação de Lesões Ortopédicas e Esportivas**. 1. ed. São Paulo: Manole, 2001.
STROBEL, M.; STEDTFELD, H. **Joelho:** Procedimentos Diagnósticos. [s.e.], Rio de Janeiro: Revinter, 2000.
WATKINS, J. **Estrutura e Função do Sistema Musculoesquelético.** [s.e.], Porto Alegre: Artmed, 2001.
WILMORE, J. H.; COSTILL, D. L. Fisiologia do Esporte e do Exercício. 2. ed. São Paulo: Manole: 2001.

THE RELATIONSHIP BETWEEN TIBIAL TORSION AND PATELLOFEMORAL INSTABILITY

Abstract

Around 50% of injuries have the knee involved. The most common one is patellofemoral disfunction. Patellofemoral instability is manifested by subluxations or luxations. Foot effort influences on knee operation and structures. Tibial rotation can be both consequence of injuries and anatomic alteration and/or lower limb biomechanics, and patellofemoral instability might be due to ill-alignment of structures and biomechanic alteration or anatomic deformities. Therefore, the study aim has been to investigate the relation between tibial alteration in individuals with such disfunction. Twenty pacients had been evaluated with diagnosis of patellofemoral instability, without any injury associated. Discarded were the obese through CMI calculation. Evaluation consisted of questions and physical examination. Concerning, physical examination, presence of the real and apparent discrepancy of lower limbs, angle Q and of tibial torsion alteration, in addition to apprehension test. The sample is consisted of young adults, with predomination the female gender. Most of the pacients presented bilateral patellofemoral instability. Half of the individuals had luxated the patella. The Q angles and of tibia torsion were altered in a great part of the sample. From the results, it is concluded that there is relationship with tibial position in pacients with patellofemoral instability.

Key-words: patellofemoral articulation, patellofemoral instability, rotation tibial

RELATION ENTRE L´ANGLE DE TORSION TIBIALE ET INSTABILITE FEMURO-PATELAIRE

Rèsumé

Environ 50% des lesions de l´appareil locomoteur touchent le genou, La plus frequente c´est la disfonction femoro-patelaire . L´instabilité femoro-patelaire a comme resultats luxations et sub-luxations . Les mouvements du pied a une inlfuence dans le fonctionement et structures du genou . La mauvaise position de du tibia peut avoir des consequences dues a des lesions, mais aussi de problemes anatomiques ou biomecaniques des membres inferieures. Le but de cet etude a étè de verifier la relation entre la position du tibia dans des personnes avec instabilité femoro-patelaire. 20 patints avec instabilité femoro-patelaire ont étè evalué , sans lesions associés e non obeses selon BMI (Body Mass Index) . L´evaluation a étè faite avec un questionaire e l´examen physique, verification reel e fausse de longueur des membre inferieurs, la mesure de l´angle Q e de torsion du tibia et plus le test de compression de la patela. La population c´était des jeunes adultes, sourtout du sexe feminin. La grande majorité des patients avait instabilité bilateral . LA moitié avait eu des luxations de la patela comme histoire . Les angles Q et de torsion tibiale avaient des ciffres anormaux dans la grande majorité des cas . Il y a un rapport entre la position de torsion du tibia et l´instabilité femoro-patelaire . **Mots clés:** Articulation femuro-patelaire, instabilidade femoro-patelaire , torsion tibiale .

LA RELACIÓN ENTRE LA TORSIÓN DE TIBIAL Y LA INESTABILIDAD DE PATELLOFEMORAL

Resumen

Los alrededor 50% de lesiones tienen la rodilla implicada. El más común es disfunción patellofemoral. La inestabilidad de Patellofemoral es manifestada por subluxations o luxaciones. Influencias del esfuerzo del pie en la operación y las estructuras de la rodilla. La rotación de Tibial puede ser consecuencia de lesiones y biomecánica anatómica del alteración y/o más baja del miembro, y la inestabilidad patellofemoral pudo ser debido a la enfermo-alineacio'n de estructuras y de deformidades biomechanic del alteración o anatómicas. Por lo tanto, la puntería del estudio ha sido investigar la relación entre la alteración tibial en individuos con tal disfunción. Veinte pacients habían sido evaluados con diagnosis de la inestabilidad patellofemoral, sin ninguna lesión asociada. Fue desechado el cálculo directo obeso CMI. Preguntas consistidas en evaluación y examinación física. Respecto a, examinación física, presencia de la discrepancia verdadera y evidente de miembros más bajos, del ángulo Q y de la alteración tibial de la torsión, además de la prueba de la aprehensión. La muestra es adultos jóvenes consistidos en, con el predomination el género femenino. La mayoría de los pacients presentaron inestabilidad patellofemoral bilateral. La mitad de los individuos tenía luxated la rótula. Los ángulos de Q y de la torsión de la tibia fueron alterados en una mayor parte de la muestra. De los resultados, se concluye que hay relación con la posición tibial en pacients con inestabilidad patellofemoral.

Palabras claves: articulación patellofemoral, inestabilidad patellofemoral, rotación tibial.

RELAÇÃO DO ÂNGULO DE TORÇÃO TIBIAL E A INSTABILIDADE FEMOROPATELAR

Resumo

Cerca de 50% das lesões músculo-esqueléticas envolvem o joelho. A mais comum é a disfunção femoropatelar. A instabilidade femoropatelar manifesta-se com subluxações ou luxações. O esforço do pé influencia no funcionamento e estruturas do joelho. A alteração da posição tibial tanto pode ser conseqüência de lesões como de alterações anatômicas e/ou biomecânicas do membro inferior, e a instabilidade patelar pode ter origem no mau alinhamento das estruturas e alteração biomecânica ou deformidades anatômicas. Assim, o objetivo do estudo foi investigar a relação da posição da tíbia em indivíduos com tal disfunção. Então, avaliou-se 20 pacientes com instabilidade patelar diagnosticada, sem lesão associada e descartados obesos através do cálculo do IMC. A avaliação constou de um questionário e exame físico. Ao exame físico, verificou-se a discrepância real e aparente de membros inferiores, a alteração dos ângulos Q e de torção tibial, além do teste de apreensão. A amostra foi constituída por adultos jovens, predominando o sexo feminino. A maioria dos pacientes apresentou instabilidade femoropatelar bilateral. A metade dos indivíduos já havia luxado a patela. Os ângulos Q e de torção tibial estavam alterados em grande parte da amostra. Com os resultados, concluiu-se que há relação entre a alteração da posição tibial nos pacientes com instabilidade patelar.

Palavras-chaves: articulação femoropatelar, instabilidade femoropatelar, torção tibial.