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A rare case of Plica syndrome of the knee

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ABSTRACT

Plica syndrome is a disease in which a membrane called Plica that does not create problem normally, create pain in the knee. Plica usually is inside the knee, that is part of the knee that is close to the contra lateral side. Plica normally does not create problems. Sometimes in specific physical activity and constant movement in the knee this membrane is stimulated. To help the diagnosis, the physician may use imaging methods such as X-ray, CT scan, and MRI. Diagnosis is usually made using Arthroscopy by directly observing the knee joint. A 43-year-old housewife who was the resident of Sanandaj had Pain in the knee area and came with a rattletrap knee caused by a sudden blow. She had knee swelling in the upper region. After visiting by orthopedic surgeon and performing a physical examination of the knee, MRI was requested. Following MRI, in addition to joint effusion, Plica syndrome was diagnosed.

Keywords: MRI; knee; Plica syndrome

INTRODUCTION

Plica syndrome is a disease in which a membrane called Plica that does not create problem normally, originate pain in the knee [1]. This fold bulges like a thin curtain into the joint space. This fold is also called Plica. Plica usually is on the inside of the knee, the part that is closer to the opposite knee [2]. Plica usually is inside the knee that is part of the knee that is close to the contra lateral side [2, 3]. Plica normally does not create problems. Sometimes in specific physical activity and constant movement in the knee, this membrane is stimulated [4].

Movements such as flexing the knee, running, cycling, or going up and down the stairs could erode the inner surface of the knee and irritate it. Sometimes after a sudden blow to the knee (falling from heights or hitting of the knee to the dashboard during a car accident) sudden tension of the Plica cause it to be inflamed [5]. Over time, the inflammation subsides but Plica becomes a thick synovial tissue [6]. Thickened Plica is more prone to injury which may result in the knee pain after even small movements. Knee pain is the main symptom of the Plica syndrome. In the time of genuflexion clicking is felt in the knee [7]. This is caused by the rubbing-click of the Plica on the condyle of the femur in the knee joint. Rarely inflammation of Plica may cause Knee swelling. Plicae syndrome is diagnosed by the patient history and physician examination [8]. Physician may use other Imaging techniques such as X-ray, CT scan and MRI. Diagnosis is usually made by using arthroscopy and directly observing into the knee joint [9-13].

CASE REPORT

A 43-year-old housewife who is the resident of Sanandaj had pain in the knee area and came with a rattletrap knee caused by a sudden blow. She had knee swelling in the upper region. After visiting orthopedic surgeon and performing a physical examination of the knee, MRI was requested. Following MRI, in addition to joint effusion, Plica syndrome was diagnosed.

DISCUSSION

Plica Syndrome is an irritation of the synovial membrane in the knee following repetitive friction to the knee tissue that result in membrane thickening and painful knee [8]. Plica Syndrome may result from difference etiologies including: quadriceps or hip muscles tightness, Microtrauma or repetitive injury, abnormal hip or knee structure and abnormal knee movement [14]. The most common symptoms of the Plica syndrome are: snapping in bending the knee, severe knee pain and knee stiffness or tightness [15].

The thickened Plica is easily seen as a low signal intensity band against the high signal intensity of synovial fluid. The mediopatellar plica is the most symptomatic condition in the patients when patient present with signs and symptoms suggesting Plica syndrome, MRI should be requested [16].

Adachi et al. stated mobility development in the patella resection of complete-type suprapatellar plica using arthroscopy [17]. The chief pain due to the anterior knee was due to cartilaginous damage of the patella and trochlea that might have been augmented by the presence of the suprapatellar plica; therefore, reducing the flexibility of the patella [18].

CONCLUSION

The sagittal T2-weighted images are adequate for diagnosing of the Supropatellar and inferopatellar plica. However, axial T2* and T2-weighted images are indicated to identify the mediopatellar and plica syndrome. Last but not least, surgical removal of a plica could provide immediate pain resolution.

REFERENCES

[1] Hardaker W, Whipple T, Bassett F. Diagnosis and treatment of the plica syndrome of the knee. J Bone Joint Surg Am. 1980;62(2):221-5.
[2] Dupont J-Y. Synovial plicae of the knee: controversies and review. Clinics in sports medicine. 1997;16(1):87-122.
[3] Biedert RM, Sanchis-Alfonso V. Sources of anterior knee pain. Clinics in sports medicine. 2002;21(3):335-47.
[4] Ewing WJ. Plica: pathologic or not? Journal of the American Academy of Orthopaedic Surgeons. 1993;1(2):117-21.
[5] Pipkin G. Knee injuries: the role of the suprapatellar plica and suprapatellar bursa in simulating internal derangements. Clinical orthopaedics and related research. 1971;74:161-76.
[6] Deutsch A, Resnick D, Dalinka M, Gilula L, Danzig L, Guerra Jr J, et al. Synovial plicae of the knee. Radiology. 1981;141(3):627-34.
[7] Kramer DE, Kalish LA, Abola MV, Kramer EM, Yen Y-M, Kocher MS, et al. The effects of medial synovial plica excision with and without lateral retinacular release on adolescents with anterior knee pain. Journal of children's orthopaedics. 2016;10(2):155-62.
[8] Nakamura Y, Kobayashi S, Kato H. A Rare Painful Mediopatellar Plica and Cord-Like Structure Complex in the Knee Joint. J Clin Case Rep. 2016;6(705): page 2.
[9] McCarthy MM, Strickland SM. Patellofemoral pain: an update on diagnostic and treatment options. Current reviews in musculoskeletal medicine. 2013;6(2):188-94.
[10] Fatehi D, Naleini F, Salehi MG, Gharib A, Zandkarimi M, Hoseinipourasl M, et al. Role of magnetic resonance imaging and cross sectional images in Neuroanatomy Course Syllabus. Journal of Chemical and Pharmaceutical Sciences. 2016;9(2):877-83.
[11] Masoumi H, Naleini F, Salehi MG, Gharib A, Rostamzadeh A. Idiopathic generalized epilepsies and efficiency of advanced magnetic resonance imaging techniques in present era; perspectives in future. Journal of Chemical and Pharmaceutical Sciences. 2016;9(3):1381-5.
[12] Salehi MG, Masoumi H, Tanha RR, Naleini F, Gharib A, Rostamzadeh A. Role of diffusion tensor imaging as an imaging biomarker and theranostic tool in structural imaging of traumatic brain injury. Journal of Chemical and Pharmaceutical Sciences. 2016;9(2):854-64.
[13] Taheri A, Rostamzadeh A, Gharib A, Fatehi D. Efficacy of multidetector-row computed tomography as a practical tool in comparison to invasive procedures for visualization of the biliary obstruction. Acta Informatica Medica. 2016;24(4):257-60.
[14] Colvin AC, Andelman SM. Tennis Injuries of the Hip and Knee. The Young Tennis Player: Springer; 2016; p. 183-201.
[15] Lyu S-R, Lee C-C, Hsu C-C. Medial abrasion syndrome: a neglected cause of knee pain in middle and old age. Medicine. 2015;94(16):e736.

[16] Vassiou K, Vlychou M, Zibis A, Nikolopoulou A, Fezoulidis I, Arvanitis D. Synovial plicae of the knee joint: the role of advanced MRI. Postgraduate medical journal. 2015;91(1071):35-40.
[17] Adachi N, Ochi M, Uchio Y, Kawasaki K, Yamasaki K. The complete type of suprapatellar plica in a professional baseball pitcher: consideration of a cause of anterior knee pain. Arthroscopy: The Journal of Arthroscopic & Related Surgery. 2004;20(9):987-91.
[18] Hjelle K, Solheim E, Strand T, Muri R, Brittberg M. Articular cartilage defects in 1,000 knee arthroscopies. Arthroscopy: The Journal of Arthroscopic & Related Surgery. 2002;18(7):730-4.