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Case Report: Calcific Lateral Collateral Ligament (LCL) Syndrome

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Abstract

We report the case of 55years old lady who presented with acute painful and stiff knee joints diagnosed and followed up radiologically and Sonographically as Calcific LCL which is a rare disorder but it's important to exclude other more serious pathological disorders by thorough clinical and sonographical or radiological examination.

Introduction

Calcification of the lateral collateral ligament is a rare phenomenon that can cause acute knee pain. The lateral collateral ligament, also known as the fibular collateral ligament, arises from the lateral femoral condyle. It inserts on the lateral aspect of the middle third of the fibular head, occasionally joining the biceps femoris tendon.The insertion of the lateral gastrocnemius tendon is posterior to the lateral collateral ligament. [1]Very few reports have been published in literature of calcification of the LCL and Popliteus tendon. The management is usually conservative and there is subsequent resolution of the calcification.

Radiographic evidence of calcification at the lateral aspect of the knee joint has been reported in the literature. The structures reported include popliteal tendon, vastuslateralis, iliotibial tract and also, in a few cases, the lateral collateral ligament.

In 1952, Lamb [2] was the first to describe presence of calcium salts in the knee joint, but these deposits were seen in the medial aspect of the joint.

In 1955, Holden [3] was the first to describe the radiographic evidence of presence of calcium deposits in the lateral aspect of the knee joint. He reported 2 cases with history of pain on the outer aspect of the knee joint with swelling and restriction of movement.

Case Presentation

55 year old female

Chief complaint: Painful stiff Left Knee joints of one month duration.

History of Present Illness

The condition started suddenly before one month . as Left Knee joint pain and stiffness increasingly stiff and the movement of the knee becomes significantly limited. with inability to walk without any history of marked traumatic blow.

Systemic Review

Past Medical History: Negative

Past Surgical History: Negative

Family History: Negative

Social History: Floor seating quadrature habit, not alcoholic, not smoker.

Drug History: NSAID, Simple analgesics.

No history of drug sensitivity

Clinical Examination of Both Knees

Look; Mild swelling and moderate degree of Varus deformities of both knees with Knee flexiondeformity mostly the Left one.

Feel; Tenderness over lateral upper portion of lateral

collateral ligament (femoral attachment side) Of Left one more.

Movement; limited range of movement of left knee.

Special test; Varus stress test was positive in Left knee while the Right one was normal.

Negative systemic clinical findings part of Cardio pulmonary system,GIT ,CNS and skin.

Investigations was Done

- ESR 15
- CRP 0.7
- Normal Complete blood count part of all other investigations
- Plain X ray of both knees was showing:

Left knee; lateral side showing soft tissue elongated calcific deposit at the upper portion of LCL (femoral attachment side)with normal bone contour of the joint with and no joint space narrowing (fig. 1).

Fig 1: *Plain X-ray, anteroposterior view showing calcific deposit in the body of LCL.*

- Right knee; lateral smallcalcific deposits at femoral attachment side.
- US report of knee joint:

Complete and real time exploration of Right and Left Knee.

Routine static and selective dynamic images were obtained in orthogonal plane.

Left knee longitudinal lateral; hyperechoic deposit 2mm.along the femoral attachment side of lateral collateral ligament (fig.2)

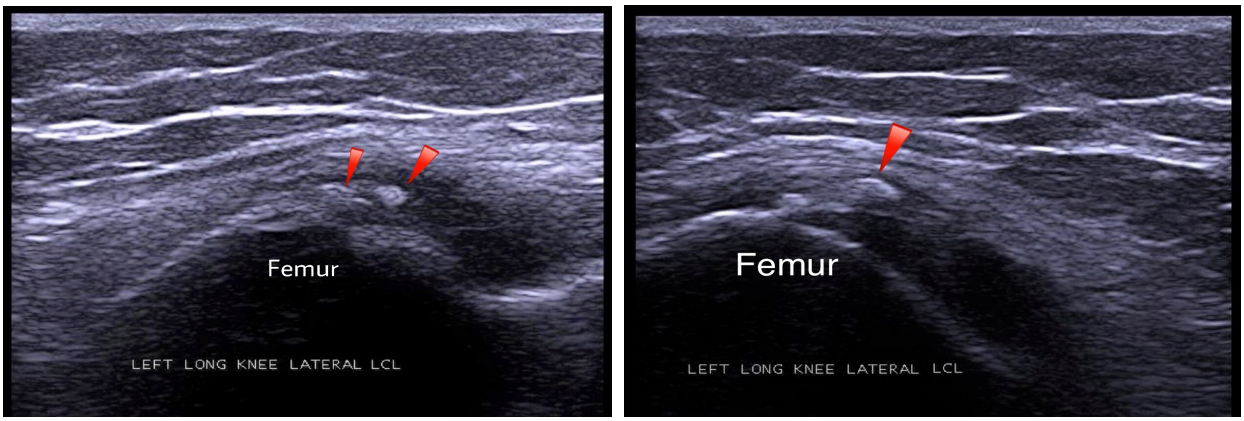

Fig 2: *Lateral long axis sonogram of Left knee joint showing hyperechoic calcific deposit along the LCL at femoral condyle Side.*

Right knee longitudinal lateral: Small multiple hyperechoic deposits.

No power Doppler signals intensity was shown.

Also shoulder and Achilles' tendon sonogram was done and revealed no supraspinatus or rotator cuff Calcific Achilles tendinopathy.

Anteroposterior radiograph of the knee joint revealed a large calcific deposit involving the lateral side of the knee joint in the region of the lateral collateral ligament.

Impressionand Diagnosis

Calcific Lateral CollateralLigament Syndrome

Treatment

Rest ,NSAIDS ,Isometric exercises stretching , gradual bending to stomach.Ultrasound and shock wave therapy

Patient was advised this regimen for 10 sessions and came 2 weeks later completely symptom free.

Sonographic study revealed complete resolution of the calcification after 2 months of regular monthly follow up visits.

Discussion

Part of the main history of this case the patient denied any history of systemic diseases, such as gout, systemic sclerosis, dermatomyositis, or sarcoidosis, or of metabolic or endocrine disorders, such as kidney failures.Also Calcium and phosphate levelswere normal,but the only positive clinical histories of this patient she had seating quadrature or what is called Arabic sitting position on the floor and she had moderate degree of varus knee deformities that's unlike case reported by Khan et al 2012[4] were the past medical history of patient included hypertension, hyper- cholesterolemia and osteoporosis and received medications included an anti-hypertensive, a statin and a bisphos- phonate.

In 1934 Codman [5] suggested the presence of these calcifications in relation to pressure and compression over the tendon. Sandstrom [6] postulated this disease to decrease the vascularity and preexisting tissue degeneration. Many more postulations have been made, however to date the exact etiology remains unknown.

Although there's no direct trauma to the femur like being hit by ball on the outsider part of the knee, the root cause of Calcific LCL Syndrome in this case mostly isdue to repetitive trivial trauma or bad repetitive positions of the knee or due to over stretching of the Lateral collateral ligament.

The first ever case reportof calcification of the lateral collateral ligament diagnosed by MRIwas given by Anderson et al [7] in 2003 while inthis casethe ultrasound was affordable, feasible and reliablediagnosticand follow up parameter.

Calcium hydroxyapatite deposition disease is one of the common causes of periarticular calcification, usually occuring in middle-age group.[8]The disease can be primary (idiopathic) or may occur secondary to chronic renal failure and collagen vascular disease. It usually presents as amorphous calcification in tendons, close to their site of insertion, but may also affect joint capsules and bursae.[9]The aetiology is uncertain. However, Gondos observed that there was a higher incidence in joints with a higher physiologic range of motion.[10] Shoulder joint is most commonly affected though it can also present at the hip, elbow, wrist and knee joints. Patients usually present with chronic or acute pain though asymptomatic deposits in the shoulder joint have been documented.[8] Disappearance of the calcification is a recognized phenomenon.

Differential diagnosis for such calcifications is important and include gout, scleroderma, CPPD disease, dystrophic calcification secondary to trauma and hyperparathyroidism [8,11].

A similar case reported of an elderly lady with calcification in the lateral collateral ligament resolved completely on conservative management[4],in stead thiscasethe painresolved betweenweek and 2 weeks after presentation of the patients and resorptionof the calcification was evident on follow-up by Ultrasound and radio- graphs obtained 1-2 months later after treatment with ultrasound and shock wave therapy.

Conclusion

Chronic knee joints pain is not always osteoarthritic pain. Thorough history and clinical examination with Sonographic and radiological investigation is affordable and mandatory for diagnosis and follow up.

Calcification or ossification of the Lateral collateral ligament of the knee responds well to conservative treatment and physical therapy.

References

[1] Haims AH, Medvecky MJ, Pavlovich R Jr, Katz LD. MR imaging of the anatomy of and injuries to the lateral and posterolateral aspects of the knee. AJR Am J Roentgenol 2003; 180:647-53.

[2] Lamb DW. (1952). Deposition of calcium salts in the medial ligament of the knee. JBJS, 34-B, 233

[3] Holden NT. (1955). Deposition of calcium salts in the poplitues tendon. JBJS, 37, 446-7

[4] Khan I, Rashid MI. (2012). Calcification of the lateral collateral ligament of the knee, a rare cause of acute knee pain. JColl Physicians SurgPak, 22(6), 389-91

[5] Codman EA. (1934). The shoulder. Boston, Todd,.

[6] Sandstrom C. (1938). PeritendinitisCalcarea, A common sidease of middle life –Its diagnosis, pathology and treatment. AJR, 40, 1-21

[7] Anderson SE, BosshardCsteinbach LS, Ballmer FT. (2003). MR Imaging of calcification of lateral collateral ligament ofthe knee, a rare abnormality and cause of lateral knee pain. AJR Am J Rountgenol, 181, 199-202

[8] Hayes CW, Conway WF. Calcium hydroxyapatite deposition disease. Radiographics 1990; 10: 1031-48.

[9] Grainger AJ, McGonagle D. Imaging in rheumatology. Imaging 2007; 19:310-22.

[10] Gondos B. Observations on periarthritiscalcarea. Am J Roentgenol Radium TherNuclMed 1957; 77: 93-108.

[11] Upton SJ, Ly JQ, Beall DP, Folio L. (2006). Hydroxyapetite Deposition Disease. Mil Med, 171 (11), IX-X.

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