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RESEARCH ARTICLE

TUBERCULOSIS OFINTRAMUSCULAR HEMATOMA POST ACL RECONSTRUCTION: A CASE REPORT

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Abstract

Introduction: Tuberculosis (TB) is considered well-eradicated in many developed countries; however, in Saudi Arabia, it is still regarded as uncontrolled. Many organs can be affected by TB, the most common being the lungs.

Presentation Of the Case: a 34-year-old male patient presented 8 months post Anterior Cruciate Ligament (ACL) reconstruction complaining of a 2 cm swelling in the left lateral aspect of the left knee along with a decrease in range after an aggressive physiotherapy session. reddish, warmth, and pain, with a limited range of movement and then diagnosed with tuberculosis of the knee, histopathologically confirmed following surgical debridement Furthermore, the patients underwent the administration of an anti-tuberculous drug regimen.

Discussion: This case is unique due to the unspecific clinical manifestations of the disease, which contributed to delayed diagnosis. Aggressive physiotherapy led to endobutten flipping resulting in hematoma development infected with M. Tuberculosis.

Conclusion: Extraarticular Knee Hematoma infected with M. tuberculosis is a rare disease often misdiagnosed. Clinical manifestations need a further surgical approach followed by a histopathology examination to diagnose the level of injury. Good physiotherapy instructions with proper technique post-ACL repair are crucial steps to prevent complications, especially post-ACL reconstruction.

Introduction:-

Tuberculosis (TB) is considered well-eradicated in many developed countries; however, in Saudi Arabia, it is still considered uncontrolled. Many organs can be affected by TB, the most common being the lungs. The prevalence of skeletal TB is still considered significant, with 10–35% of extra-pulmonary cases [1]. In Saudi Arabia, the number of extra-pulmonary cases is rising, with a percentage of 29.3% of all TB cases {3,4}. The highest incidence accounts for spine TB with 40% and knee TB with 8% [2]. Late diagnosis is usually the issue for osteoarticular TB, as they usually present very late, which results in severe complications such as joint destruction. The early detection of knee

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TB can lead to earlier treatment, which consists of surgical and medical treatments. Induction of treatment should be prioritized due to the preservation of the range of motion of the knee, which could be affected by treatment delay [5,6]. In this paper we will present a case of a 34 year old male patient who has TB in extrarticuler hematoma after aggressive physiotherapy

Case Presentation:

Patient Description

We present a case of a34-year-old male patient presented to our hospital outpatient department in2022; 8 months post Anterior Cruciate Ligament (ACL) reconstruction complaining of a 2 cm swelling in the left lateral aspect of the left knee along with decrease in rangeof motion after an aggressive physiotherapy session where the patient felt a popping sound originated from the knee. Swelling was non-traumatic,insidious in onset, and it wasassociated with dull aching pain, diffuse in nature, graduallyprogressive in intensity, increased on activity, and relieved onrest and pain killer.The patient had no constitutionalsymptoms of fever, weight loss,cough, breathlessness, chest pain, or any h/o contact with aconfirmed case of TB.

Physical Examination

The physical examination revealed painful, swollen left knee with local redness over the lateral aspect of the knee about 1-2 cm above the joint line, Knee mobilization revealed range of motion 0-90 degrees. lackman's anterior drawer test was normal and pivot shifting test was assessed in the OR while the patient under anesthesia and was normal. The vascular and neurological examinations didn't show any complications. General examination: no fever and no respiratory symptoms. Patient was admitted and scheduled for a CT scanwith contrast and diagnostic knee arthroscopy and debridement.

Results of pathological tests and investigations

Noncontract CT scan of the left knee Coronal, Sagittal and 3D performed, it revealed a displacement of the endobutton 1.3 cm from the proximal end of the femoral tunnel along with a large suprapatellar effusion, suspicion of graft rupture was raised. No evidence of dislocation or subluxation otherwise.

Treatment plan

Patient was brought to the surgical room. Lachman test and pivot shift was performed under anaesthesia and showed joint stability with no remarkable changes. Diagnostic arthroscopy was done showing a medial meniscus degenerative change. Normal lateral and medial gutter area and normal trochlear, medial, and lateral compartments. ACL graft was examined under arthroscopy and was intact with no changes in the position. No abnormal fluid was leaking from the femoral tunnel and the lateral thigh swelling was not increased in size while saline was flow. A lateral distal thigh incision was done and the lateral distal thigh containing hematoma and pus discharge was debrided. Endobutton was out and removed and sent for tissue biopsy and swap culture was taken and sent and further debridement was made, and all collection was removed.

Outcome

Pathology report came back as normal finding of anterior superficial cyst for the tissue sent. However, for the culture swap for the debridement that was made, the result came back positive PCR for M. Tuberculosis. Mantoux test/Purified Protein Derivative (PPD) was performed and was also positive and microbiologyculture report results showed acid-fast stain positive. Further CT chest and abdomen investigation was performed with no significant finding. Patient was put on anti-Tuberculosis antibiotics regimen and discharged.

Discussion:-

Tuberculosis has been considered as significant health problems, infecting almost a quarter of the population around the world, with the highest incidence in reproductive age [2]. Tuberculosis can manifest in the condition of extra-pulmonary, including lymph node (the most common), skin [7], meninges, and bone [8]. In our case report, the patient was 34-year-old with a diagnosis of M.tuberculosisin extra-articlerhematoma in the knee. In this case, our patients presented a progressive swollen and reddish knee with intermittent pain, and this patient also had a lateral abscess in the vastus lateralis muscleafter hematoma due to displacement of the end button and after it was flipped outthe swelling was localized extraarticular, slowly progressive, with slow and gradual pain. As usual, the patient realised the symptoms because of the limitation of movement that is felt after an aggressive physiotherapy which resulted into an extraarticular knee hematoma development. Inthis case, the development of knee hematoma from flipped endobutten caused by the aggressive physiotherapy, lead to a collection infected with M.Tuberculosis. The

pain was intermittent, patients have experienced slight disturbances in his clinical manifestations until the edema limited his movement to do his regular activities and forced him to stop all physiotherapy exercises. History of trauma sometimes is considered as a confounding factor to diagnose the tuberculosis of the knee [9]. The treatment of knee tuberculosis is primary medical with antituberculosis chemotherapy. The selection of drugs is usually the same as that for pulmonary tuberculosis (isoniazid, rifampin, pyrazinamide, and streptomycin or ethambutol). The optimal duration of treatment for musculoskeletal tuberculosis is uncertain. For most patients, 6 to 9 months of treatment is enough, but extended treatment (9–12 months) is warranted for patients with extensive or advanced disease.

However, surgical treatment of osteoarticular tuberculosis is reserved for specific indications and mostly to treat complications. In the case of our patient, surgical treatment was mandatory to drain the joint abscess, complete debridement, which are essential for effective treatment of extra-articular infected hematomathus lowering risks of disease reoccurrence.

Early secondary osteoarthritis is a common complication following knee tuberculosis. The patient must monitor, regularly including physiotherapy, that would give better outcomes for the patient himself, although for our patient a long term follow up was not included in this report. Therefore, continuous medical monitoring is needed annually for assessing the long-term complications of intraarticular or extraarticular knee tuberculosis.

Conclusion:-

Extraarticular Knee Hematoma infected with M.tuberculosis is a rare disease that often misdiagnosed. Clinical manifestations need further surgical approach followed by histopathology examination to diagnose the level of injury.Moderate literature showed that knee injuries due to trauma or aggressive physiotherapy techniques and improper exercises increaseslikelihood of complications. Good physiotherapy instructions with proper technique post ACL repair are crucial steps to prevent complications especially post ACL reconstruction.

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