ORIGINAL RESEARCH PAPER

Orthopaedics

RARE CASE OF BILATERAL TUBERCULAR SYNOVITIS OF THE KNEE JOINT.

KEY WORDS: Tuberculosis, Knee Joint, Bilateral, Synovium.

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ABSTRACT

Aim-To describe rare case of Bilateral tubercular synovitis of the knee joint. **Background-** Musculoskeletal involvement in tuberculosis is seen in about 19 % of the case. Joint Tuberculosis is a disease of usually one joint. Although pulmonary Tuberculosis may be absent,patients may present with symptoms of anorexia, weight loss, evening rise of temperature even in extra-pulmonary tuberculosis. **Case Description-**30 yr old male patient presented with acute onset bilateral tubercular synovitis of both knee joints. The Acid fast bacilli was isolated from both knee joints. Histopathology examination of the synovium did not show tubercular granuloma. However Gene Xpert of the sample showed low grade tuberculosis which was sensitive to rifampicin. Hence this is a rare case in itself,as such case presentation for tuberculosis has not yet been described in the literature. **Conclusion-** Bilateral tubercular knee joint synovitis with systemic symptoms of tuberculosis can be rare case presentation of tuberculosis. **Clinical Significance-** Bilateral tubercular knee synovitis can be one of the differential diagnosis of bilateral knee synovitis.

INTRODUCTION

Musculoskeletal tuberculosis is 10-25% incidence.[1] Joint Tuberculosis is a disease of usually one joint. Extrapulmonary tuberculosis(EPTB) accounts for 20% cases[2] . Tuberculosis is currently undergoing a resurgence worldwide with an incidence of 14.2 cases per 1 lakh population[3]. Although pulmonary Tuberculosis may be absent,patients may present with symptoms of anorexia, weight loss, evening rise of temperature even in extra-pulmonary tuberculosis .Usually tubercular synovitis is secondary to primary focus elsewhere and usually presents at the stage of arthritis when joint erosion has already started. Poncet's disease (PD) is a reactive polyarthritis where no mycobacterial involvement can be detected after acute tuberculosis[4] . PD is an important differential diagnosis when suspecting musculoskeletal tuberculosis. We present a rare case of Bilateral tuberculous synovitis of knee diagnosed early.

CASE REPORT

30 year old male admitted for low backache in male orthopaedic ward developed acute onset right sided knee pain and swelling associated with low grade fever with chills.There was no history of anorexia ,weight loss. After 5 days patient complained of pain and swelling over left knee. Joint symptoms were present throughout the days and gradually increasing in intensity. There was no history of trauma, bowel, bladder, eye or pulmonary complaints. There was no history of Tuberculosis contact or previous history of tuberculosis or any other systemic illness.

Clinical Examination

On general examination patient was averagely built, averagely nourished

There was no pallor, cyanosis, clubbing, icterus or lymphadenopathy

On Systemic Examination

Cardiovascular system examination, respiratory examination, central nervous system examination, per abdomen examination all were normal.

On Examination Of Right Knee Joint

There was diffuse swelling over knee joint, patellar tap was positive and cross fluctuation was present. Local rise of temperature was present and there was restriction of flexion beyond 90 degrees. Examination of left knee joint showed similar finding after 5 days though on initial examination it was normal.

Investigations

On investigation haemoglobin was 12.9g/% Total leucocyte countwas 17470 per cumm. Differential leucocyte count showed N 87,L 07,M 05, E 01,B 00. Platelets count was 2.63 lakhs per cumm. CRP was 96ug/ml(positive). ESR was 35mm at the end of 1 hr.RA factor was negative.Sr.uric acid was 3.9mg/dl. HLA B27 was negative. X ray chest PA view was normal

X RAY LS SPINE (fig.1) and X RAY KNEE did not reveal any fracture dislocation or gross radiographic changes except soft tissue swelling around the knee.

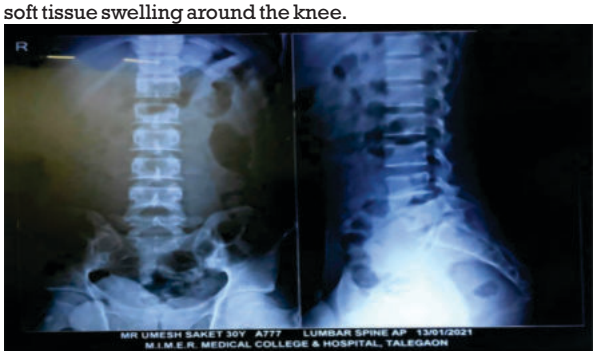


Fig 1: Xray lumbosacral spine anteroposterior and lateral view

Ultrasonography of knee(Fig 2:Usg of knee) was suggestive of gross collection with internal echoes noted in the right suprapatellar bursa extending medially and laterally(? Infective pathology)

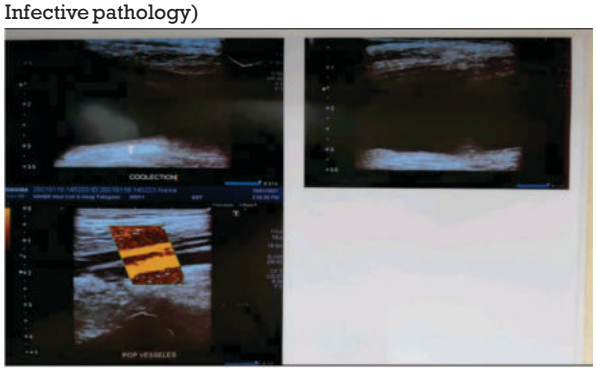


Fig 2:Ultrasonography of knee

Both knee joints were aspirated.
Right knee joint 100ml fluid was aspirated which was serosanguinous in appearance(Fig. 3) and left knee joint when aspirated shown 80ml fluid which was flurosecnt green in appearance(Fig.4) and both knee joint aspirated fluid was sent for gram stain, Zn stain pus culture and sensitivity and synovial fluid analysis.

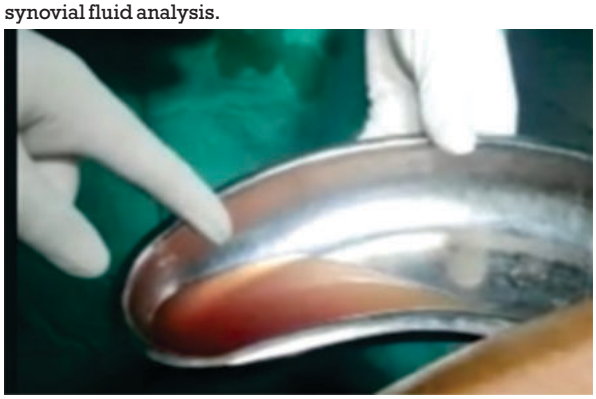


Fig 3: Serosanguinous Fluid Aspirated From Right Knee

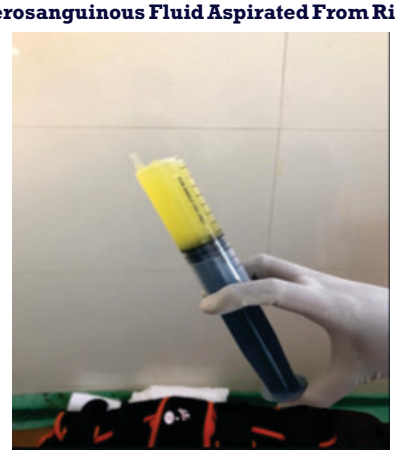


Fig 4: Aspirated Fluid From Left Knee Joint Fluorescent Green In Colour

Pus culture sensitivity report of both knee joint aspirated fluid showed no growth.Gram stain showed no bacteria and just distorted Pus cells while Zn stain of both knee joint aspirated fluid showed as AFB seen.

Synovial Fluid Analysis Of Rt Knee- Physical Examination

Volume	5ml
Colour	Pale yellow
Appearance	Turbid
Cobweb	Absent
Clot	Absent

Microscopic Examination

Total leucocyte count	25962/cumm
DLC 1)polymorphs 2)lymphocytes 3)mesothelial cells/macrophages	 81% 11% 08%
Red blood cells	20,000 cells/cumm
Impression	Exudate

Synovial Fluid Protein And Sugar Analysis Of Right Knee

Protein	2.3 g/dl
Sugar	25mg/dl

Synovial Fluid Analysis Left Knee- Physical Examination

Volume	8 ml
Colour	Pale yellow
Appearance	Turbid
Cobweb	Absent
Clot	Absent

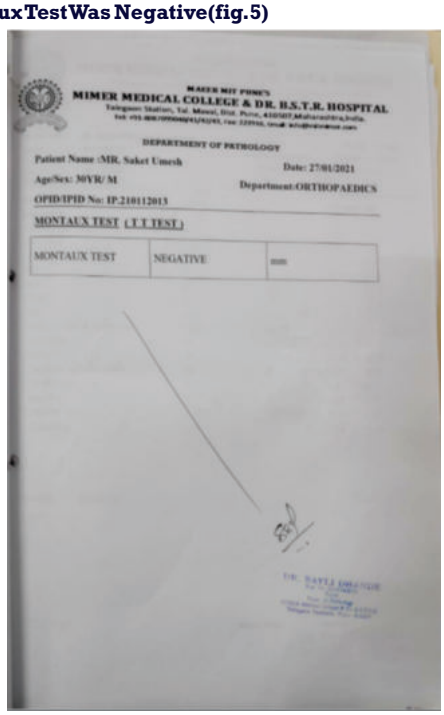
Microscopic Examination

Total leucocyte count	19366/cumm
DLC 1)polymorphs 2)lymphocytes 3)mesothelial cells/macrophages	 71% 25% 04%
Red blood cells	1,000 cells/cumm
Impression	Exudate

Synovial Fluid Protein And Sugar Analysis Left Knee

Protein	3.9 g/dl
Sugar	86mg/dl

Montoux Test Was Negative(fig.5)


MIMER MEDICAL COLLEGE & DR. B.S.T.R. HOSPITAL

DEPARTMENT OF PATHOLOGY

Patient Name :MR. Saket Umesh — Date: 27/01/2021

Age/Sex: 30YR/ M — Department:ORTHOPAEDICS

OPID/IPID No: IP.210112013

MONTAUX TEST (T T TEST)

MONTAUX TEST	NEGATIVE	mm

Fig 5: Report Of Montoux Test

Right knee biopsy was done by arthroscopy which was done along with synovectomy.The Biopsy was suggestive of acute on chronic non-specific synovitis but did not show any tubercular granuloma.

Gene xpert report of knee joint aspiration was suggestive of Mycobacterium bacilli detected low with no Rifampicin resistance(Fig 6)

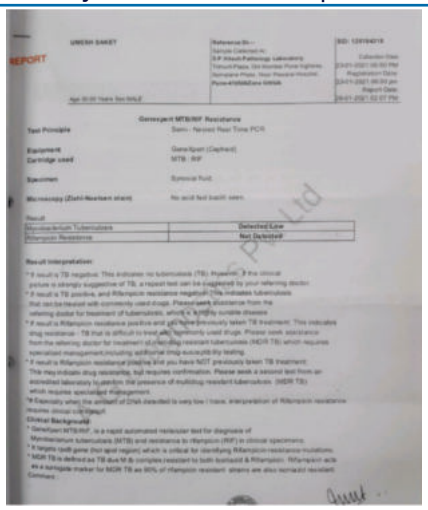


Fig 6: Gene Xpert Report Showing Mycobacterium Tuberculosis Detected Low

Rheumatologist opinion was taken. The diagnosis of bilateral tubercular synovitis was done and advised to take 4 drug Anti-koch's treatment and anti-inflammatory drugs.

DISCUSSION

Extrapulmonary manifestations of tuberculosis are reported in about 20% cases of tuberculosis.[2] Tuberculosis is currently undergoing a resurgence worldwide with an incidence of 14.2 cases per 1 lakh population.[3] The skeletal TB constitutes less than 10% of the total TB cases.[5] In adults musculoskeletal tuberculosis shows a preponderance to the spine (50%), hip (25%) and knee(8%).[6,7] Primary bone infection with tuberculosis is less likely and it is usually secondary to a primary focus elsewhere.[8] However our patient showed no pulmonary focus of infection and chest radiograph was normal. Also there was no lymphadenopathy. Hence we note down that this was a case of primary musculoskeletal tuberculosis of right knee joint, with involvement of left knee joint after 3 days. The investigations for inflammatory arthritis like RA factor, sr. uric acid, HLA B 27 were normal ruling out inflammatory arthritis. The montoux test was negative, probably as it takes 2 to 6 weeks for the test to become after fresh infection. It also rules out Poncet's disease or tubercular rheumatism because actual acid fast tubercular bacilli were isolated from both knee joints and montoux test was negative.[9] Thus our case is rare case of bilateral tubercular synovitis of knee, which was picked up early as the patient was already admitted in orthopaedic ward and undergoing treatment for backache. Hence patient was started on anti koch's treatment and underwent synovectomy which helped the patient to recover early. Usually tubercular synovitis is secondary to primary focus elsewhere and usually presents at the stage of arthritis when joint erosion has already started.

CONCLUSION

Bilateral tubercular knee joint synovitis with systemic symptoms of tuberculosis can be rare case presentation of tuberculosis.

Clinical Significance

Bilateral tubercular knee synovitis can be one of the differential diagnosis of bilateral knee synovitis.

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