

Recurrent infectious arthritis of knee joint associated with Brodie abscess in the proximal tibia



Jun Bae Kim M.D., Yong Lae Kim M.D., Suk Joo Lyu M.D., Hyung Wook Kang M.D.
 Department of Orthopaedic Surgery, Seoul NOW Hospital

Introduction

- Brodie abscess is a localized form of subacute osteomyelitis
- Usual clinical manifestation
 - Affected sites: metaphysis before physeal closure & metaphyseal
 - Sign and Symptom
 - Systemic symptom and sign are minimal
 - Intermittent pain of long duration w local tenderness over affected area
- Diagnosis
 - Radiographic evaluation
 - Plain radiography and MRI
 - Open biopsy & culture
 - Purulent material, granulation tissue w or w/o cultured organism
 - S. aureus in 50% of pt. & negative in 20%
- Infectious arthritis associated Brodie abscess
 - No report
 - No cure before precise diagnosis and treatment
 - Detection is hard before localized formation
- Clinical importance
 - In relapsed low grade infection in joint after conservative treatment
 - In recurred infection in joint after primary operative treatment

Introduction

- Brief History
 - F/68
 - housewife
 - No trauma history
 - Insidious pain & recently aggravated pain in knee joint
- Laboratory findings
 - ESR: 55/ CRP: 4.08
 - Joint Fluid analysis
 - WBC 10,670, Poly 54%
 - Protein 4.66(NL: 1.00~3.00)
 - Glucose 15.00
 - G(-) & no growth of microorganism

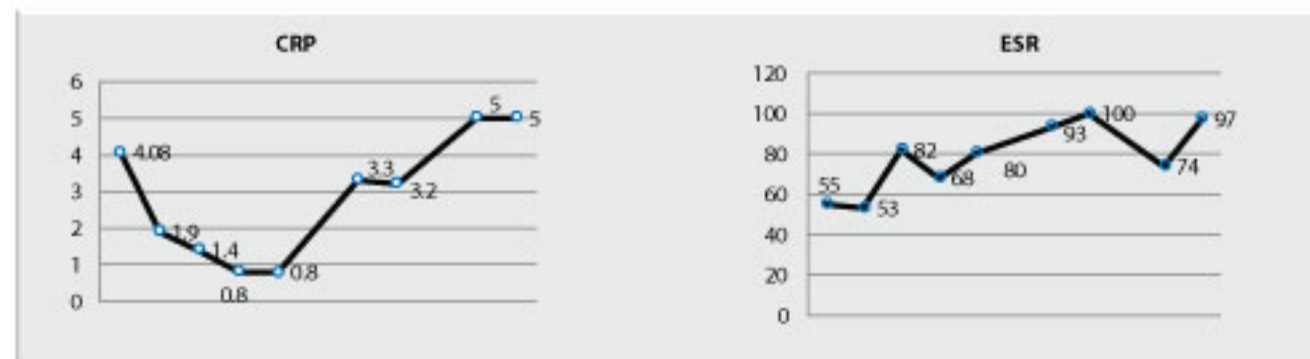


Fig. 2 preoperative radiographic findings

Degenerative tear in medial meniscus, degenerative change in medial compartment and patellofemoral joint

Arthroscopic synovectomy and partial medial meniscectomy

Relapse of Symptom postoperatively 6 months Mild heating sense after exercise Persistent pain in ADL



Conservative treatment (antibiotics)
No improvement

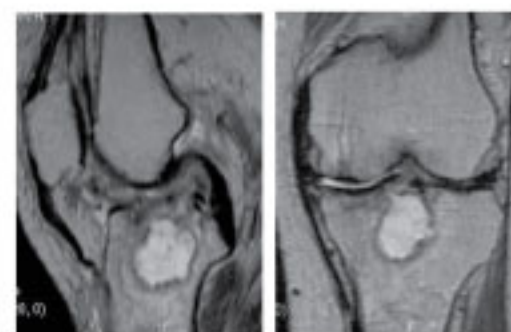
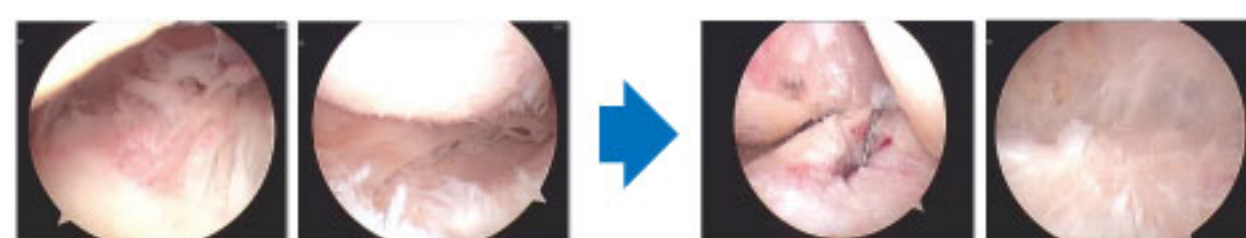


Fig. 2 MRI findings, postoperative 16 months

Heterogeneous T2 high signal lobulating lesion in proximal tibia Diffuse marginal sclerotic lesion & Edematous lesion around tibial lesion

Curettage
Arthroscopic synovectomy

- Operative finding
 - Purulent material in bone cyst
 - Severe synovitis in knee joint
- Open drainage of abscess & Curettage targetted by ACL tibial guide
- Total synovectomy & Continuous irrigation in knee joint
- G(-) & No growth of microorganism



Final results

- Symptoms
 - No knee joint pain postoperatively 2 months
- Laboratory findings
 - Complete normalization postoperatively 3months

Discussion

- Brodie abscess
 - Localized form of subacute osteomyelitis
 - Metaphysis or Metaphyseal-epiphyseal area is most affected site
 - Intermittent pain of long duration with local tenderness over affected area
 - No Report of affected Sx. & Sign in adjacent joint

Summary

- A case report of infectious arthritis associated w Brodie abscess in knee joint
- In relapsed infectious arthritis after conservative or operative treatment Consider additional bony infective condition including Brodie abscess