Septic Arthritis of Hip in Children

Dr. (Prof.) Anil Arora

MS (Ortho)  DNB (Ortho)  Dip SIROT (USA)
FAPOA (Korea), FIGOF (Germany), FJOA (Japan)
Commonwealth Fellow Joint Replacement
(Royal National Orthopaedic Hospital, London, UK)

Senior Knee and Hip Replacement Surgeon
Associate Director
Department of Orthopaedics and Joint Replacement
Max Superspeciality Hospital, Patparganj, Delhi (India)
E-mail : anilarora@delhiorthojournal.com
Introduction

• Quite Common

• Serious Complications.

• Delayed Diagnosis

• Confusing (Bilateral cases, Iliac abscess)
Material and Methods

- **78 children** with septic hips
  seen between 1990-2005
  at University College of Medical Sciences, Delhi, India.

- **Age 3 days - 14 years.**

- 18 cases reported late (>7 days)

- 6 cases had bilateral involvement.
Treatment

• All but five drained (73).

• Antibiotics in consultation with paediatrician (Semisynthetic penicillin + aminoglycoside OR cephalosporins)

• Complications developed in 21(26%) patients
Complications

- Dislocation – 14 / 78 Cases
- Pathological separation of proximal femoral epiphysis – 4 cases
Dislocated septic hip, 23 days old child

Drained and Reduced

Braced in abduction for 4 months

Normal Function – 3 years FU
Shubham Agra
6 Months FU Post Reduction
Lessons Learnt……..

- Check hip stability
- Brace unstable hips 3-6 months
- Close reduction as late as 8 weeks
- Adductor Tenotomy in some
- Open reduction as late as 2 years
- Add Trochanteric K-wire
- All heads do have some delay in ossification
- Mildly deformed heads easily remodel
BHANU
New Born
Drained
Not Braced
4 MO
Ultrasound: Head Fully Inside
Varus Containment Osteotomy
Akirti 1 month old child, symptoms 10 days

Drained..
Relocated..
Braced..
3 months FU, Ultrasound – Head+
3 years age
Pseudoarthrosis…Lesson Learnt

- Minimum of 60-70 degrees of Valgus is required.

- Stability at pseudoarthrosis is extremely important.
Vascular Insult - 4 cases

- SMALL HEAD
- LARGE HEAD
- STIPPLED HEAD
- VANISHING HEAD
Manish  8 months, fever 8 days
Vanishing Head Sign – A new radiological sign for AVN
8 YEARS FU – Head has reappeared !!!!
Deepika 2 year female, symptoms – 7 days
2 years after SAA
AVN….Lesson Learnt

• Regular FU by Ultrasound to see health of PFON

• Follow them for Coxa Magna

• Provide Adequate Coverage if magna (in any form)
Coxa Vara – 3 cases

Treated by

• Valgus Osteotomy
Coxa vara.. Lessons Learnt

• Marked Improvement in hip function and limb length following valgus osteotomy.

• Let the bone heal if involved in osteomyelitic process.

• Watch out for Valgus Knee.
Partial / Total Femoral Head Destruction = 10 cases

- Pelvic Support Osteotomy
- Shelf
12 Years FU

Lying

Standing
12 Years FU
Lessons Learnt......

- Don’t attempt Intra-articular procedure..if head is considerably destroyed.

- Pelvic Support Osteotomy gives fabulous results and support.
• Antibiotics change the clinical presentation

• In older children, retrofacial pyogenic abscess of iliac fossa can be confused with septic hip.

(Difficult to pinch the iliac table clinically between fingers and thumb. There is Pseudoflexion deformity)

• Ultrasound extremely useful tool
Reduce dislocated hip as long as 2 years.

Don’t forget - Iliac fossa abscess
- Acute Exudative TB
- and Bilateral involvement.
THANK YOU
Chondrolysis

12 year, 2 weeks after hip drainage, >>>>>>>>Traction
Tubercular hip with dislocation in an Infant !!!
THANK YOU
Diagnosis

Patients were presented with:

- Less movement of the limb, or
- Discomfort in nappy change.
- Fever (Rare in neonates).
- Unhappy / out of sorts in early case

- Observed by the mother
- Doctor from paediatric nursery.
• **Clinical Signs:**
  - Less **active** movements of the limb
  - Asymmetry of thigh creases
  - Fullness on either side of adductor longus tendon
  - Restriction of passive extension as compared to normal side

*We did not rely much on range of passive “rotations” or absence of fever for excluding this diagnosis*
Investigations

Included:
- X-rays
- Ultrasound
Aspiration

Aspirate subjected to Grams stain and WBC counts

ESR, CRP, Blood Cultures.....
• MRI
• Bone scan
Subluxation / Frank Dislocation of hip 11 cases
Frank AVN changes 3 cases
(with chondrolysis in one)
Pathological separation of proximal femoral epiphysis / Pseudoarthrosis of the neck 4 cases
Partial / Total destruction of femoral head 9 cases
Extensive involvement of shaft 5 cases
Varus Osteotomy  
1 case

Valgus Osteotomy for coxa vara  
2 cases

Staheli’s Acetabular Augmentation for uncovering of femoral head  
2 cases
12 year, 2 weeks after hip drainage, >>>>>>>> Traction
4 MONTHS TRACTION, SEQUESTRUM
After 2 weeks

16 weeks
Braced in abduction for 4 months
Normal Function of hip – 3 years FU
Instability: Lateral Displacement
1 year FU, Psudoarthrosis
1 month old child, klebsiella Septicaemia

Relocated and Braced for 4 months

6 mo age- brace removed

11 mo age-child started walking
1 year 6 months age -
Hip stable with
Normal Functions.