Osteochondritis Dissecans of Talus in Children and Adolescent - preliminary report -

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Osteochondritis Dissecans of Talus in Children and Adolescent

Osteochondral Lesion

Rare

Respond well to nonoperative treatment when stable: Tachdjian’s
Protocol of Treatment in Children and Adolescent

Nonoperative Treatment

Stage I,II,III (medial)
Stage III (lateral): Higuera et al, 1998

Operative treatment

Stage IV (Unstable fragment)
Problems of nonoperative Treatment in Children and Adolescent

Failed in 54% - need operative Tx
  : Letts et al, 2003

Only 16 % clinical & radiographic healing within 6 Ms
  : Perumal et al, 2007
Problems of nonoperative Treatment in Children and Adolescent

Asymptomatic before radiographic healing

High risk of loss of follow-up
Problems of nonoperative Treatment in Children and Adolescent

Stage I,II progress to III,IV

Chronic fatigue on poorly supported cartilage Lead to cartilage destruction and loose body
Problems of non-operative Treatment

Early operative treatment?
Purposes

To define the characteristics in children

To discuss the treatment strategies
Materials & Methods

Review 9 cases

Classification
  • Arthroscopic classification
  • Revised Berndt and Harty
Materials & Methods

• Radiographic Outcome

• Clinical Outcome

Excellent : No Sx
Good       : occasional Sx
Fair        : decreased Sx
Poor        : no change in Sx
Results

Male : Female = 6 : 3
Medial : Central : lateral = 6 : 2 : 1

Revised Berndt-Harty Classification

III : IV : V = 5 : 2 : 2
Results

Arthroscopic (cartilage) classification
Soft, smooth cartilage (intact) in all except 2 stage IV

Stage III

Stage V
Results

Clinical outcome

Excellent : Good = 7: 2

Radiographic healing

Healed : improved : not healed = 4: 3: 2
Results

Symptom less than 3 Ms (4, Stage III; 2, Stage V)

Excellent clinical outcome
Radiographic healing or improvement,
even though prolonged, in all

Symptom more than 6 Ms (2, Stage IV; 1, Stage III)

Good clinical outcome in 2, not excellent
No radiographic healing in 2
Complicated with degenerative osteophytes in 3
Case 1

Shin, OO   16 Yrs  M  

Pain 3 yrs  
trauma 3 yrs ago (13 Yrs old)

Stage III
Intact cartilage
In-situ fixation

No pain, normal activity
Radiographic healing (-)

Postop
Postop 1 Yr 3 M s
Case 2

Koh, OO  14 Yrs  M  Pain  3 Yrs,  no definite trauma history

- Loose body
- Osteophyte
- Deformed lateral malleolus

Stage IV
Loose body removal
Curretage, bone graft, in-situ fixation
Mild pain after severe exercise
Radiographic healing (-)

Postop 2 Yrs 3 Ms
Case 3

Kim, OO  21 Yrs, F

Ankle pain  for 6 Yrs and limited ankle motion

PMH :  5 Yrs ago  arthroscopic  surgery

Stage IV
5 yrs ago  Preop MRI   : Stage  III

History of Arthroscopic Debridement :   Maybe intact cartilage ?
2 yrs ago MRI                  Progress to Stage IV
Persistent pain, less plantar flexion
Unstable loose fragment
Impingement of osteophyte of talus and tibia
Auto osteochondral graft
Osteophyte debridement
Occasional pain, Less plantar flexion
Radiographic healing
Osteohyte
Case 4

Yoo, OO, M 4 Yrs

Trauma history 10 days ago, Ankle pain, joint effusion,

Stage V
Intact cartilage but soft, retrograde drilling and bone graft
No pain
Radiographic improvement, not complete healing
Case 5

Whang, OO  11 Yrs, F  Pain  6 days  after ankle sprain

Stage III
Intact cartilage, but soft

Retrograde drilling and bone graft
Radiographic healing, No pain

Postop 2 Ms

Postop 8 Ms
Case 6

Kim, OO  16 yrs   M  Ankle pain  7 days  after trauma

Stage III
Intact but soft cartilage  Retrograde drilling, in-situ fixation
No pain
Radiographic Improvement, not complete healing

Postop 4 Ms  Postop 9Ms
Discussion

Intact cartilage surface in all except Stage IV

: Poor correlation with radiographic staging

Treatment strategy

: subchondral bone status
Discussion

Asymptomatic lesion

: Poor correlation of radiographic finding

Prolonged radiographic healing

: Long-term follow-up needed
Discussion

Outcome depend upon Stage

Good results in 81% of Stage II
38% of Stage III

: Letts et al
Discussion

Treat before progression to worse stage

Surgery
if pain after 6 months of nonoperative treatment
if not willing to further modify their activities.

: Perumal et al

Can we control the activities of children?

How long wait?
Conclusion

Osteochondritis Dissecans of talus in children

• Close prolonged follow-up until radiographic healing

• Early operative Tx?
Thank you!