Journal Club: 7 December 2015

Chairman: Mr Simon Hoskinson
Organiser: Miss Tricia Walker
Attendees: Miss Tricia Walker, Mr Steven Ross, Mr Pranab Sinha, Mr Paul Cameron, Miss Fiona Bintcliffe, Mr Jamie Buchanan, Mr Simon Hoskinson, Mr Simon Pearce, Mr Andrew Armitage, Mr Adrian Butler-Manuel, Mr Raj Thiagaraj

Trauma & Orthopaedic Department, Eastbourne Hospital, East Sussex Healthcare NHS Trust

Theme: Management of slipped capital femoral epiphysis. Should we prophylactically fix the contralateral side?

Presented papers:


Reviewer: Mr Steven Ross


Study design:
- Large multicentre study
- 33 centers across 6 continents
- Demographics - age at diagnosis, gender, race, body weight, laterality, month of presentation, duration of symptoms

Outcomes:
- 1630 children with 1933 SUFE
- M:F 58.8% : 41.2%, Age 13.5: 12
- Race: 47.5% caucasian
- Unilateral: 77.7% bilateral 16.5%
- Acute: 14.5%
- Symptom duration between 2.5 and 52 months
- Weight: 63.2 % > 90th percentile

CRITIQUE

Strengths of the study
- Study is relevant
- Unique - only major demographic study
- Appropriate study design, statistics and tables used
- Outcomes plausible and in line with available data
- Incomplete data noted but was variable - source of error

Methodological concerns
- Age of study
- Quality of data
- Weighting of data for each race/region
- Racial groups different to UK

Reviewer: Mr Pranab Sinha


Study design:
- Retrospective study
- Medical records reviewed between 1993 and 2003 in a single hospital
- Southwick angle, acute vs chronic, evidence of osteonecrosis and chondrolysis

Inclusion criteria:
• Unilateral SUFE minimum 24 months follow-up

Exclusion criteria:
• Endocrine/ metabolic disease/ bilateral involvement

Outcomes:
• 227 unilateral SUFE
• 147 M: 80 F
• Subsequent contralateral slip: 82 (36%)
• Unilateral SUFE
  • chronicity - acute 25%, acute on chronic 5%, chronic 70%
  • severity - mild 56%, moderate 36%, severe 8%
• Subsequent contralateral slip
  • chronicity - acute 28%, acute on chronic 7%, chronic 65%
  • severity - mild 77%, moderate 17%, severe 6%
• 4 chondrolysis, 1 osteonecrosis

CRITIQUE

Strengths of the study
• Sound literature research on studies advocating contralateral pinning
• Utilised same surgical technique
• No change in post-operative rehabilitation

Weaknesses of the study
• Level 3 evidence
• A lot of data presented did not reach significance
• Power of study too low

Reviewer: Mr Conrad Lee

Study design:
• Retrospective cohort study
• 226 consecutive SUFE (between 1965 and 2005)
• 133 eligible cases
• 93 cases excluded - 45 lost to follow-up; 16 did not have pinning as initial treatment; 1 refused consent; 6 deceased
• 22 bilateral SUFE
• 3 contralateral prophylactic pining
Outcomes
• 133 unilateral SCFE
• No contralateral slip 75% (113)
• Contralateral slip 15% (20)
• Incidence of contralateral slips in patients with unilateral SUFE 15%
• Rate of subsequent corrective surgery 11% in unilateral slip, 5% in delayed contralateral slip
• PROM: contralateral slip versus unilateral disease: no difference
• NNT = 6

CRITIQUE

Strengths of the study
• Easy to read and follow
• Appropriate time frame (40 years)
• Variety of validated PROMS (general & specific)
• Appropriate use of statistical tests

Methodological concerns
• Retrospective
• Variety of implants and fixation methods
• High loss to follow up
• Vague conclusion

Reviewer: Miss Tricia Walker


Study design:
• Retrospective study
• 91 patients presenting between Jan 2000 - Dec 2010 with unilateral SCFE
• Hips pinned either unilaterally or bilaterally at discretion of operating consultant
• Reviewed operative database and medical records
• SF 12 and OHS
• Radiograph of contralateral hip reviewed by 2 observers at initial presentation and last follow-up - posterior slope angle (PSA) cam lesion, grade of OA
• Cost analysis performed

Outcomes:
• 86 patients unilateral SCFE
• 50 unilateral, 36 prophylactic fixation
• No significant difference in age, gender, endocrine abnormalities, socio-economic status between groups
• Complications - 23/50 who had unilateral fixation suffered contralateral SCFE at a mean of 128 days. No deep wound infections, periprosthetic fractures or chondrolysis for any contralateral hips fixed
• Functional outcome - Significantly greater SF-12 and trend towards greater OHS for patients who underwent prophylactic fixation
• Radiographs - Significant difference in mean PSA in those undergoing unilateral fixation that had subsequent contralateral slip than those who did not have a further slip. Eight cam lesions were all in the group that did not undergo prophylactic fixation
• Economic cost - £7241 for unilateral, and £7882 for bilateral group

CRITIQUE

Strengths of the study
• Clearly constructed research question which follows PICO (population, intervention, control, outcome) format
• Well-written paper
  No patients lost to follow-up

Methodological concerns
• Retrospective
• Not randomised - patients at risk of slip may have been prophylactically fixed.