

# Preliminary assessment of Summit® stem subsidence and Pinnacle® cup migration: A short-term study of 56 THA.



Th. THIRION
P. GEORIS
Ph. GILLET

Orthopaedic Department
University Hospital Sart-Tilman
Liège, Belgium





#### Introduction

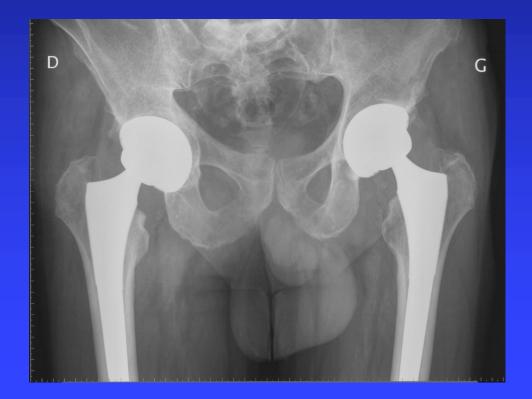
- One of the major causes of loosening of prosthetic implants is insufficient initial stability.
- Implant migration is usually due to osteolysis in the periprosthetic bone but also to the absence of bone ingrowth in the porous coated material at the periphery of the implant.
- Radiographic evidence of migration of the femoral and acetabular components after THA is the most important diagnostic sign of implant loosening.
- Early detection of stem subsidence and cup migration may help in deciding to perform revision surgery before severe bone destruction has occurred, at a moment when standard clinical and radiological follow-up may still be reassuring.





## Study aim

■ The aim of this study was to check if implant migrations were observed at a minimum 2-year follow-up and, under this circumstance, if these migrations were accompanied by alteration of clinical result.







### Patients

- 56 hips in 55 patients
  - Median age at the operation: 57,25 years (range: 35 to 82)
    - ♦ 31 women
    - 24 men
  - to 5 years)



3 to 4 years

4 to 5 years



2 - to 3 years

35

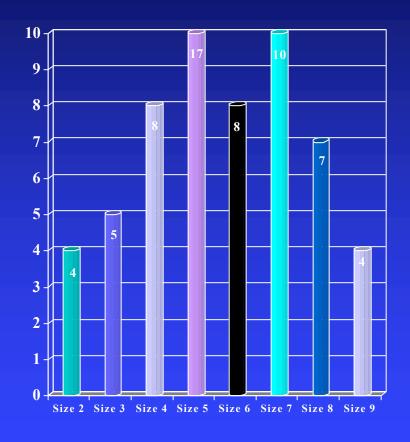


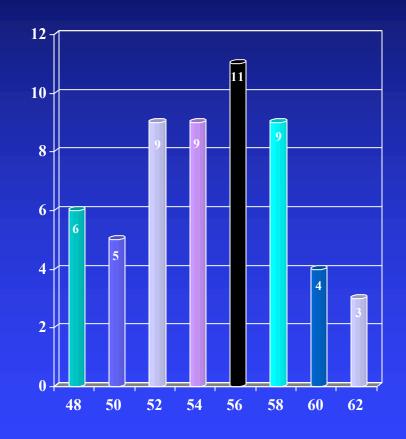


# **Implants**

■ Summit<sup>®</sup> stem

Pinnacle® cup /
 Ultamet® metal inlay







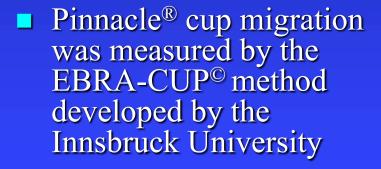
Metal prosthetic head:

28 mm (11 hips) 36 mm (45 hips)



#### Method

- Patient outcome was assessed using the Harris Hip Score (HHS)
  - Preoperatively
  - ◆ Last follow-up







Summit® stem subsidence was assessed using a specific custom-made analysis model built in the Imagika® software

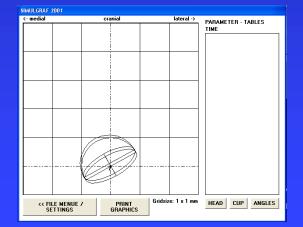


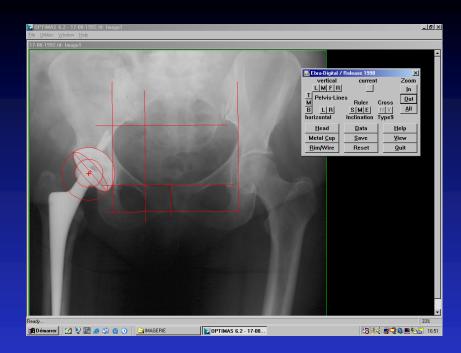


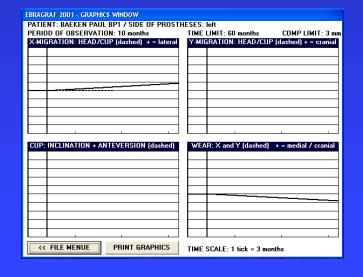
#### Method

Pinnacle® cup migration

◆ EBRA-CUP<sup>©</sup>











# Method

■ Summit<sup>®</sup> stem subsidence

◆ Imagika<sup>©</sup>

1	2
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7	9
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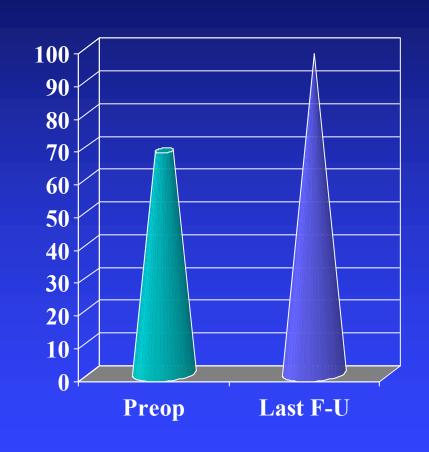
#### Results

# Harris Hip Score

Preoperatively

Last follow-up

Significant improvement in all patients







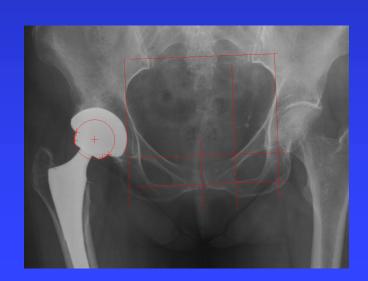
#### Results

- Summit® stem subsidence
  - ◆ Annual linear subsidence rate
    - 0.032 mm (range: 0.01 to 0.06) (not significant)



- Pinnacle® cup migration
  - Medial migration at last F-U
    - 0.11 mm (range: 0,03 to 0,24)
  - Cranial migration at last F-U
    - 0.15 mm (range: 0.02 to 0.31)(not significant)







#### Discussion

- At last follow-up, all patients were considerably improved.
- There was no case of significant stem subsidence or cup migration at last follow-up control.
- Despite the short-term follow-up period (3.3 years; range: 2 to 5), there was no negative influences as far as the follow-up length is concerned (from 2 to 5 years).
- At a short-term period, Summit<sup>®</sup> stems and Pinnacle<sup>®</sup> cups seems to be reliable implants in respect of bone fixation.





# Thank you



