

Proximalisation of the tibial tubercle gives a good outcome in patients undergoing revision TKA who have pseudo patella baja

F.-J. Vandeputte, H. Vandenneucker  
Bone Joint J 2017;99-B:912-16

Table of contents

- Objective
- Patients and Methods
- Results
- Discussion
- Conclusion

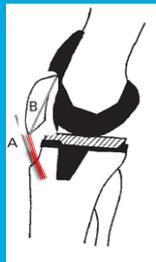
• Objective



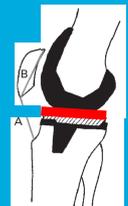
Benefit from proximalisation of the tibial tubercle ?

• Patella baja

- Patella baja
  - True
  - Scarring & shortening



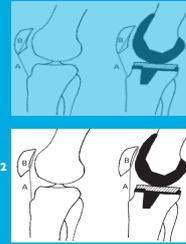
- Patella baja
  - True
  - Scarring & shortening
  - Pseudo
  - Elevation joint line



- Patella baja (A/B)
  - Insall-Salvati <math><0,8</math>



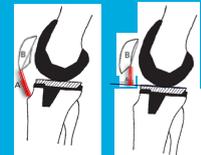
- Patella baja (A/B)
  - Insall-Salvati <math><0,8</math>
  - Modified Insall-Salvati <math><1,2</math>



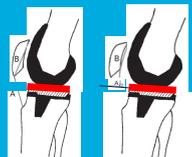
- Patella baja (A/B)
  - Insall-Salvati <math><0,8</math>
  - Modified Insall-Salvati <math><1,2</math>
  - Blackburne-Peel <math><0,8</math>



- True patella baja
  - Insall-Salvati (A/B)
    - A 1 → 0,5
  - Blackburne-Peel (A/B)
    - A 0,9 → 0,4



- Pseudo patella baja
  - Insall-Salvati (A/B)
    - A 1 → 1
  - Blackburne-Peel (A/B)
    - A 0,9 → 0,2



## Patient and Methods

- Monocentric (January 2008 – November 2013)
- Retrospective case-control
- Inclusion
  - pseudo patella baja after primary PS TKA
  - Proximalisation
  - revision TKA after failed non-operative treatment
  - 2 years follow-up



## Patient and Methods

→ 13 knees / 13 patients

Each patient in this *osteotomy*-group was matched for gender, age, weight, length, body mass index, indication for revision, implant type, length of operating time, and pseudo patella baja (Blackburne-Peel ratio) to form a *control*-group of 13 knees in 13 patients.

Table 1. Demographic data of all patients, presented in all cases except gender as mean (range)

Group	Age (yrs)	Weight (kg)	Length (m)	Body mass index (kg/m <sup>2</sup> )	Duration surgery (min)	BP ratio	IS ratio	Proximalization	Gender (M/F)
Osteotomy	53,8 (34 to 71)	83,9 (63 to 108)	1,71 (1,52 to 1,84)	28,9 (21,8 to 37,7)	125,0 (90,0 to 240,0)	0,29 (0,06 to 0,52)	1,43 (1,01 to 2,01)	5,8 (3 to 21)	5/8
Control	65,8 (50 to 82)	87,4 (65 to 125)	1,70 (1,56 to 1,8)	30,3 (23,4 to 41,8)	130,0 (100,0 to 170,0)	0,32 (0,00 to 0,46)	1,23 (0,72 to 1,78)	-	7/6
Difference (p-value)	0,0541		0,1337	0,8046	0,4704				0,4512

BP: Blackburne-Peel; IS: Insall-Salvati

## Patient and Methods

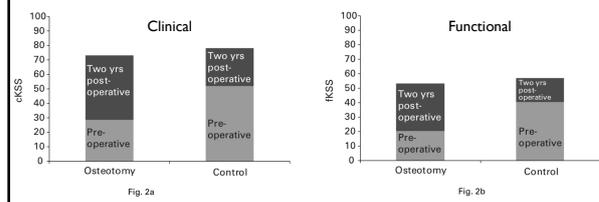
- Outcome
  - Clinical KSS
  - Functional KSS
  - Xray analysis (2x6x2)
- Statistic analysis (significance  $p \leq 0,05$ )
  - Welch two sample t-test (normal distribution)
  - Wilcoxon rank sum test with continuity correction (not normal distribution)
  - Power analysis

## Results

- Mean proximalization: 9,8 mm (3-21)
- Mean increase BP-ratio: 0,2 (0,1-0,28)
- No delayed or non-union
- No higher extension lag
- No difference ROM

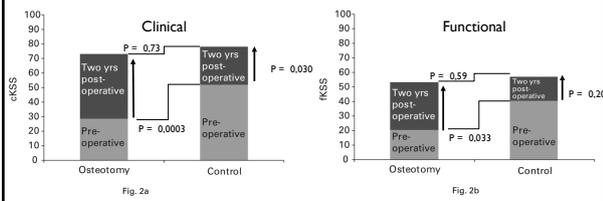


## Results



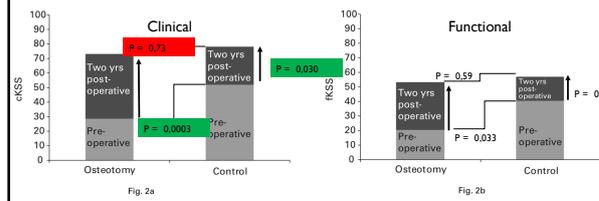
Clinical (cKSS) (a) and functional (fKSS) (b) Knee Society Score.

## Results



Clinical (cKSS) (a) and functional (fKSS) (b) Knee Society Score.

## Results



Clinical (cKSS) (a) and functional (fKSS) (b) Knee Society Score.

UZ LEUVEN

## Discussion

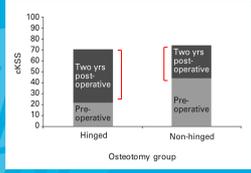


What about prosthesis type? Range of proximalisation is 3mm – 21 mm!

UZ LEUVEN

## Discussion

What about prosthesis type?

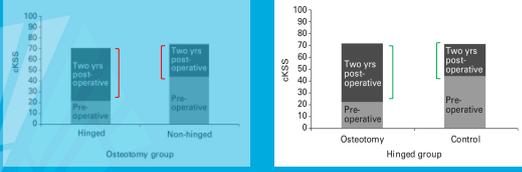


P = 0,07

UZ LEUVEN

## Discussion

What about prosthesis type?



P = 0,07

P = 0,01

UZ LEUVEN

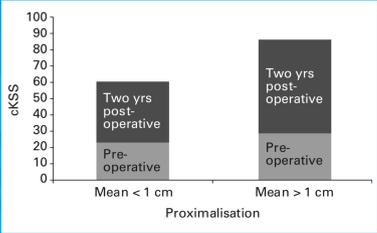
## Discussion

What about the wide range of proximalisation ?

UZ LEUVEN

## Discussion

What about the wide range of proximalisation ?

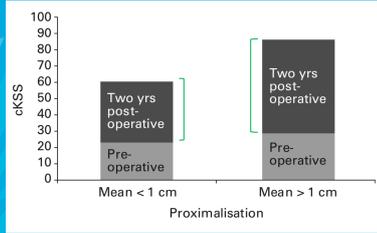


P = 0,01

UZ LEUVEN

## Discussion

What about the wide range of proximalisation ?



P = 0,01

## Conclusion

Proximalisation of the tibial tubercle gives a good outcome in patients undergoing revision TKA who have pseudo patella baja

F.J. Vandegutte, H. Vandenneucker  
Bone Joint J 2017;99-B:912-16

## Conclusion

- In revision TKA, proximalisation gives good outcome in patients who have pseudo patella baja.
  - Even without full restoration of BP-index
  - Regardless of implant type
  - Without major complication

