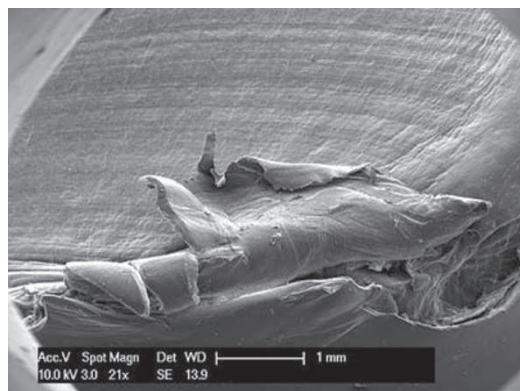
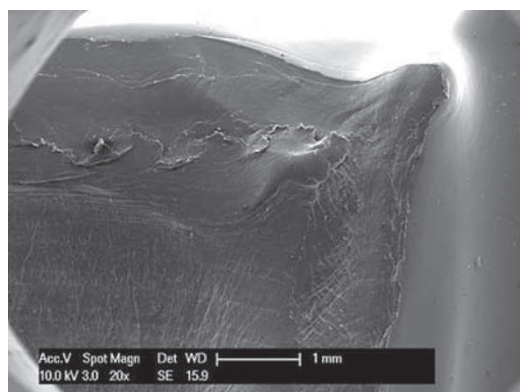


after the implant in a 63 years old female (BMI 39) after an hyper-extension trauma.

**Methods** During the revision we harvested sample of the peri-prosthetic tissue which was prepared for the light microscopy evaluation. The samples were stained using both haematoxylin-eosin and Von Kossa. The PE liner was prepared for the Scanning Electron Microscopy.

**Results** The SEM evaluation revealed two different damage patterns considering the medial part and the lateral aspect of the sample. The medial part presented a fracture line laminated in front and smooth behind and with the tear lines with a medio-lateral and anterior posterior orientation. The lateral part presented a sharp fracture line that ends anteriorly with a laminated tear paralleled to the anterior edge of the polyethylene insert, and which implies that this area could be the terminal failure area of the fractured post. The medial part of the fracture edge appears to be smooth and with a different orientation of the fracture lines.

**Conclusions** These features could be explained with a “two stage” rupture of the polyethylene post. This could have been caused by a non-optimal ligamentous balance that weakened the post, which was finally broken by a postero-anterior stress.



#### Suggested readings

- Clarke HD, Math KR, Scuderi GR (2004) Polyethylene Post Failure in Posterior Stabilized Total Knee Arthroplasty. *J Arthroplasty* 19:652
- Bal S, Greenberg D (2007) Failure of a metal-reinforced tibial post in total knee arthroplasty. *J Arthroplasty* 22:464
- Chiu YS, Chen WM, Huang CK, Chiang CC, Chen TH (2004) Fracture of the polyethylene tibial post in a NexGen posterior-stabilized knee prosthesis. *J Arthroplasty* 19:1045

#### Early acetabular revision with anatomic cup

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**Introduction** Anatomic acetabular cup, studied in 1999 by Prof. M. D’Imporzano, is born to solve the problem of acetabular revision in grade I and II mobilization (GIR) [1], respectively, characterized by widening and deformation of cavity with eventual superior or posterior wall loss. The problem in these lesions is not such bone stock reconstruction, as correct positioning of new cup. Indeed superior wall loss can set wrong collocation of the cup tending to verticalization and superior migration of rotation centre, while posterior loss can lead to retroversion [2].

**Material and methods** The hemispheric cup owns a cranial fin for iliac support with 4 holes for stabilization with spongiosa screws. In its equatorial area features 3 holes for posterior and medial screws, according to Pauwels, and circular retention cavities in order to increase the initial stability. The external shell is covered with a porous titanium layer so as to facilitate secondary osteointegration. The tapered liner is in ceramic or polyethylene eventually protruded. The originality of this cup consists in having the insertion seat of the articular liner oriented by 18° in antiversion. This choice was made in order to automatically guarantee the necessary antiversion, even if the supero-posterior iliac wall is eroded, the latter being the reason why normal symmetrical revision cups lead to undesired positioning in insufficient antiversion. Considering these features, the cup can be used, as well as in revision surgery, in treatment of Coxa Profunda, Displasic Coxo-femoral Osteoarthritis and acetabular fractures outcomes [3]. In this study we present the results of 60 revisions between 2000 and 2007, with a 1–7 years follow-up.

**Results and conclusions** The clinical outcome was good with an improvement from 55 to 88 considering the Harris Hip Score. As complications we observed only 1 case of sepsis, neither dislocation nor mobilization. Radiographical study of rotation centre pointed out a reduction of the superior migration from 1.2 to 0.8 cm after surgery. The shortness of follow-up period does not allow to conclude definitively about the effectiveness of this cup as the optimal solution in this surgery; however, we can state that it can be a valid solution for treatment of grade I and II contrasting the two principal problems of these revisions: superior migration of rotation centre and retroversion tendency.

#### References

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- Spoorer SM, Paprowsky WG, O’Rourke MR (2006) Managing bone loss in acetabular revision. *Instr Course Lect* 55:287–297
- D’Imporzano M, Castelli F (2001) First experience with “Anatomic” cup. Congresso Nazionale SIOT, 13 Nov 2001, Rome, Italy