

## SESSION 016

### PROSTHESIS II

#### UNCEMENTED REVISION PROSTHESIS SL WAGNER IN THE TREATMENT OF THE PERIPROSTHETIC FRACTURES

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**Introduction:** One of the worst problems in the orthopedics surgery is the periprosthetic fracture after THA. However there is not a complete agreement about its treatment. Even if it is relatively rare (incidence near to 2%), the number of cases is growing because of the higher mean age of the patients and the number of the implants.

**Materials and Methods:** About 800 THA are performed every year in the Hip Surgery Unit of the "S. Corona" Hospital. The hip periprosthetic fractures are 115 (M 24- F 91), mean age 69,86 aa. Nearly the totality of the B2-B3 hip periprosthetic fractures according to Vancouver classification are treated with the removal of the prosthesis and the implantation of an uncemented SL Wagner stem with diaphyseal anchorage with brackets and made of titanium porous. The patients are 67 (M 13- F 54) with mean age 71 aa  $\pm$  11 (min 34 max 89); the intra e post-op hemorescue system has allowed to normalize the hematic defluxio (about 1500 ml).

**Results:** The mean follow-up is 6,5 aa with max follow-up 14 aa (11 patients deceased and 3 lost to the follow-up); the survival rate is 97%; two cases of septic mobilization, one case of pending revision. The clinical results are good, average HHS 87/100, and satisfactory in all patients.

**Discussion:** Our preferred treatment allows us to obtain a higher standard than the treatments with osteosynthesis previously utilized; the pre-op planning and a good intra-op routine permit a shorter and competitive surgical time on contrast to traumatologic techniques. F.K.T is very important for rapid functional resumption. The new offset of the stem, the good cablage of the great trochanter and the use of the large heads (or cups constrained with ring) limit the risk of dislocation.

#### RESECTION HINGE PROSTHESIS IN NON-ONCOLOGICAL DISEASES

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Resection hinge prosthesis are currently being used for reconstructing joints after bone resection in oncological diseases. The good clinical results and the availability of new materials and designs have also led to their use in secondary bone defects in non-ontological diseases, such as non-union and conventional joint replacement. This study reports the preliminary results of a retrospective analysis performed on 12 patients treated at our institute with resection hinge prostheses in non-oncological diseases.

#### FEMORAL REVISION WITH THE MODULAR ZMR® STEM. CLINICAL AND X-RAYS RESULTS AT MEDIUM TERM FOLLOW-UP

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A retrospective review was conducted to evaluate the medium-term results of the ZMR modular revision taper stem. From March 1999

to December 2002, 65 consecutive hip revision surgeries were performed mostly for aseptic loosening. Femoral bone stock defects were classified according to AAOS's criteria and consisted mainly in type II and type III. A Wagner osteotomy was performed in 25 cases to remove primary implants that were cemented in 35 cases. Mean post-operative follow-up was 69 months (range, 36 to 91 months). Clinical assessment at follow-up showed a significantly improved mean Harris Hip Score from 42 points preoperatively to 81 points postoperatively, while the x-ray examination did show a satisfactory distal integration of the stem in all cases and satisfactory reconstitution of the femoral bone stock in 47% of cases. The average subsidence of the stem at follow-up was under one millimeter. According to the data leg length discrepancy exceeding 15 millimeters caused significantly higher functional impairment and more pain.

#### TREATMENT OF PERIPROSTHETIC FRACTURES OF THE FEMUR IN PATIENTS TREATED BY TOTAL HIP ARTHROPLASTY

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Periprosthetic fractures of the femur can be treated in different ways: conservative treatment that includes traction and immobilization with a cast and surgical treatment that involves open reduction and fixation when the implant is stable, or stem replacement if it is loose. Various techniques and surgical devices have been described in the literature to treat these fractures. We present a retrospective study of periprosthetic fractures treated in our ward over 12 years. We treated consecutively 17 patients, 3 men and 14 women, with periprosthetic fracture of the femur. Their mean age was 72 years (range 52-88). According to the Vancouver classification, 6 were type B1, 7 type B2, and 4 type C. Twelve patients underwent fixation and 9 stem replacement. None of the patients were treated conservatively. Mean follow-up was 20 months (range 8-114). The fracture healed in all patients and weight bearing was resumed between 2 and 6 months after surgery. The clinical results were good to excellent, and the mean Merle-D'Aubigne Score improved from 3.47 (range 3-5) to 16.52 (range 14-18). We believe that when possible surgical treatment of periprosthetic fractures of the femur should be the first choice of treatment thanks to the high success rate.

#### A NEW PROXIMAL FEMUR RECONSTRUCTION PROSTHESIS: MPM-GB-COMPOSITE

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The proximal femur bone substance larger losses are related to: resections due to oncologic problems, massive mobilization of a pre-existing hip prosthetic implant or, more rarely, grave traumatologic outcomes; these losses cause problems in reconstruction procedures. Until today it was possible to choose between a metallic reconstruction prosthesis or a combination of a revision prosthesis and a massive proximal femur homoplastic bone insert (composite prosthesis). The authors present a new prosthetic system, optimized in year 2004, which allows to perform both kind of reconstructions. The prosthesis, in titanium alloy, is composed by: a stem of variable diameter, available both in cemented and uncemented versions which, once introduced, is the base for the further assemblings; a highly modular body, prepared for both anchorage to soft tissues or fitting within massive bone inserts; a proximal portion characterized by two neck and three head sizes and two offset possibilities. The possible femoral resection is within 40 and 300 mm. Since 2004 the MPM-GB-Composite prosthesis has been implanted in 13 patients: in 7 cases it has been adopted after tumoral resections, in 2 cases for a prosthetic re-implant, in 4 cases