

Internal hemipelvectomy through a peri-acetabular osteotomy combined with an ex-traarticular (proximal) femur resection using a single posterolateral approach; a series of cases

ROBBERT VAN LEEUWEN², MARTIN BECK⁴, BRUNO FUCHS¹⁻³

Sarcoma Service, Cantonal Hospitals Winterthur¹ & Luzern², University Hospital Zurich³, Hirslanden Clinic St. Anna Luzern⁴
www.SARCOMA.SURGERY / www.SWISS-SARCOMA.NET

INTRODUCTION

To reach the best oncological perspective in periacetabular- and proximal femur tumors with intraarticular growth, a radical extra-articular periacetabular tumor resection is necessary. In this case report we present an extra-articular periacetabular resection technique through a posterolateral approach to the hip. This approach is commonly used in trauma surgery and elective hip surgery, but the resection technique is relatively unknown in tumor surgery of Enneking type II lesions.



Figure 1 – The preoperative radiographics in the three patients, where a periacetabular growth of the tumor is seen

PATIENT & METHODS

Three patients with malignant tumor growth in the hip joint presented themselves in our outpatient clinic. A 68 year old male (patient A) showed a 28x18mm osteolytic metastasis of a solitary fibrous tumor in the right hip, a 37 year old female (patient B) developed a secondary chondrosarcoma in the left proximal femur after a primary resection of chondromatosis, and at least, a 65 year old female (patient C) showed a secondary osteosarcoma after fibrous dysplasia of the right proximal femur. In all patient, there was an indication for a radical resection of the tumor.

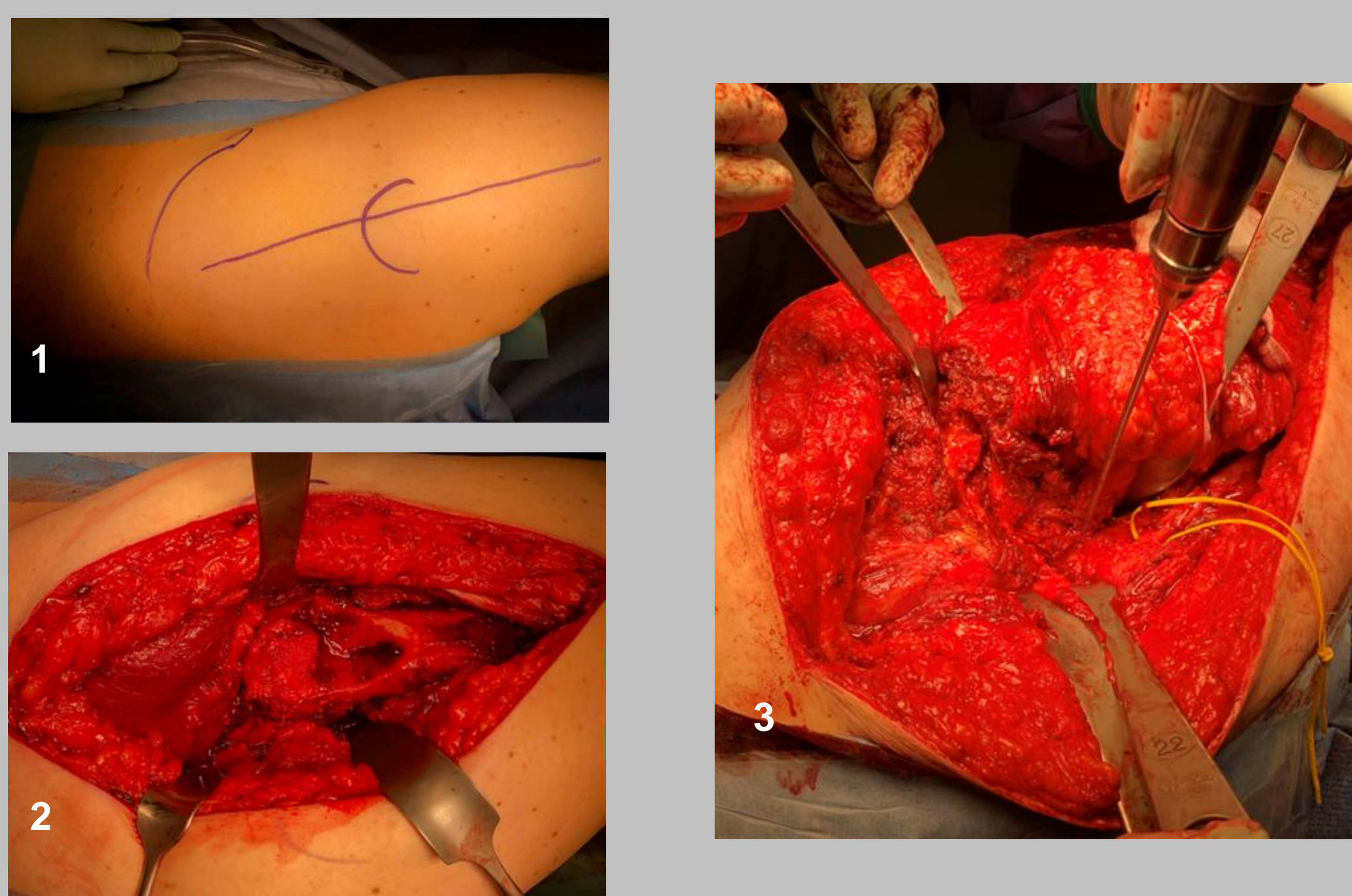


Figure 2 – The first steps of the posterolateral approach. On the second image, the trochanterostomy is seen. A mobile hip joint is identified as a single structure and a the periacetabular osteotomy could be performed, leaving the hip joint intact

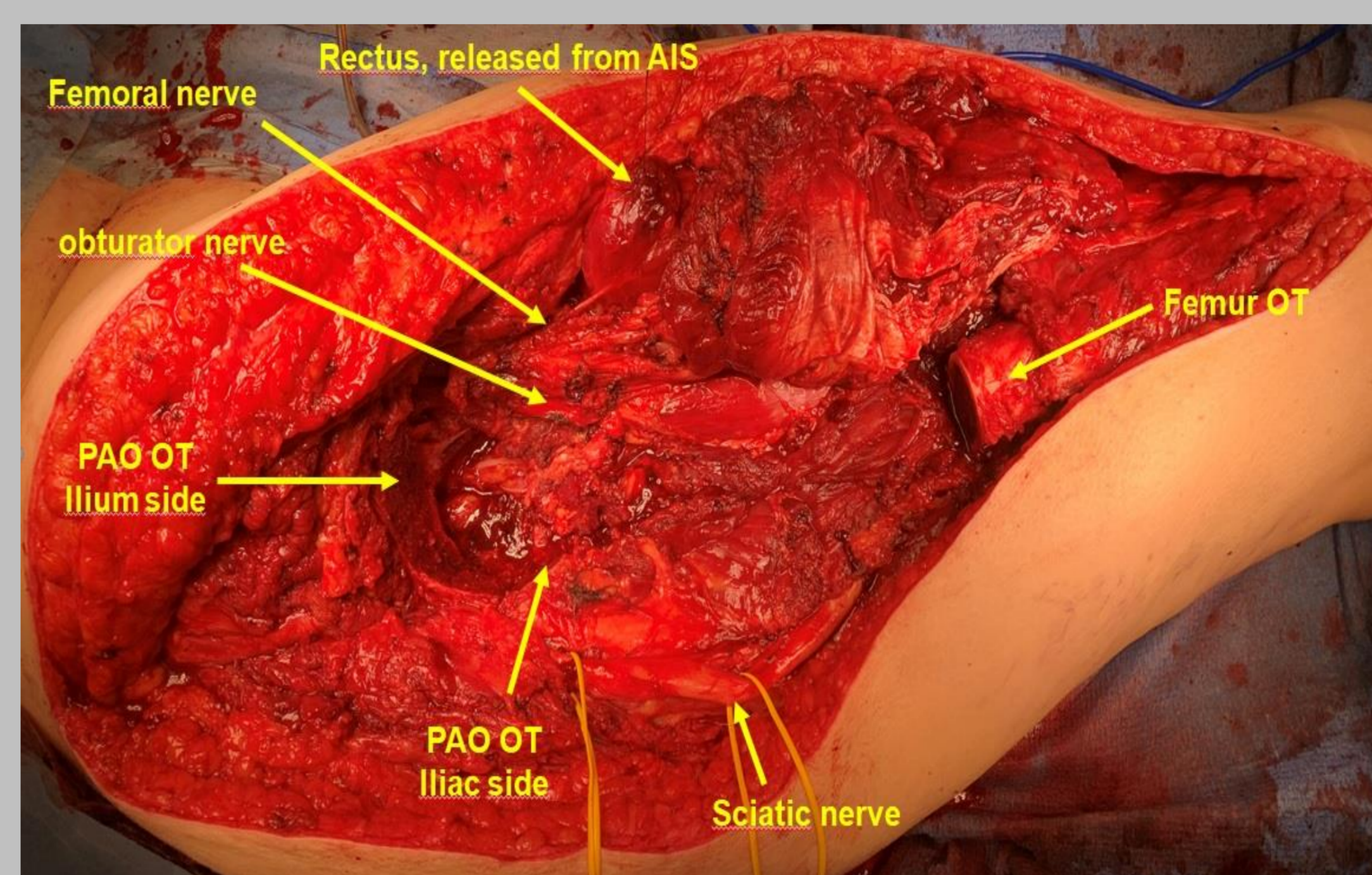
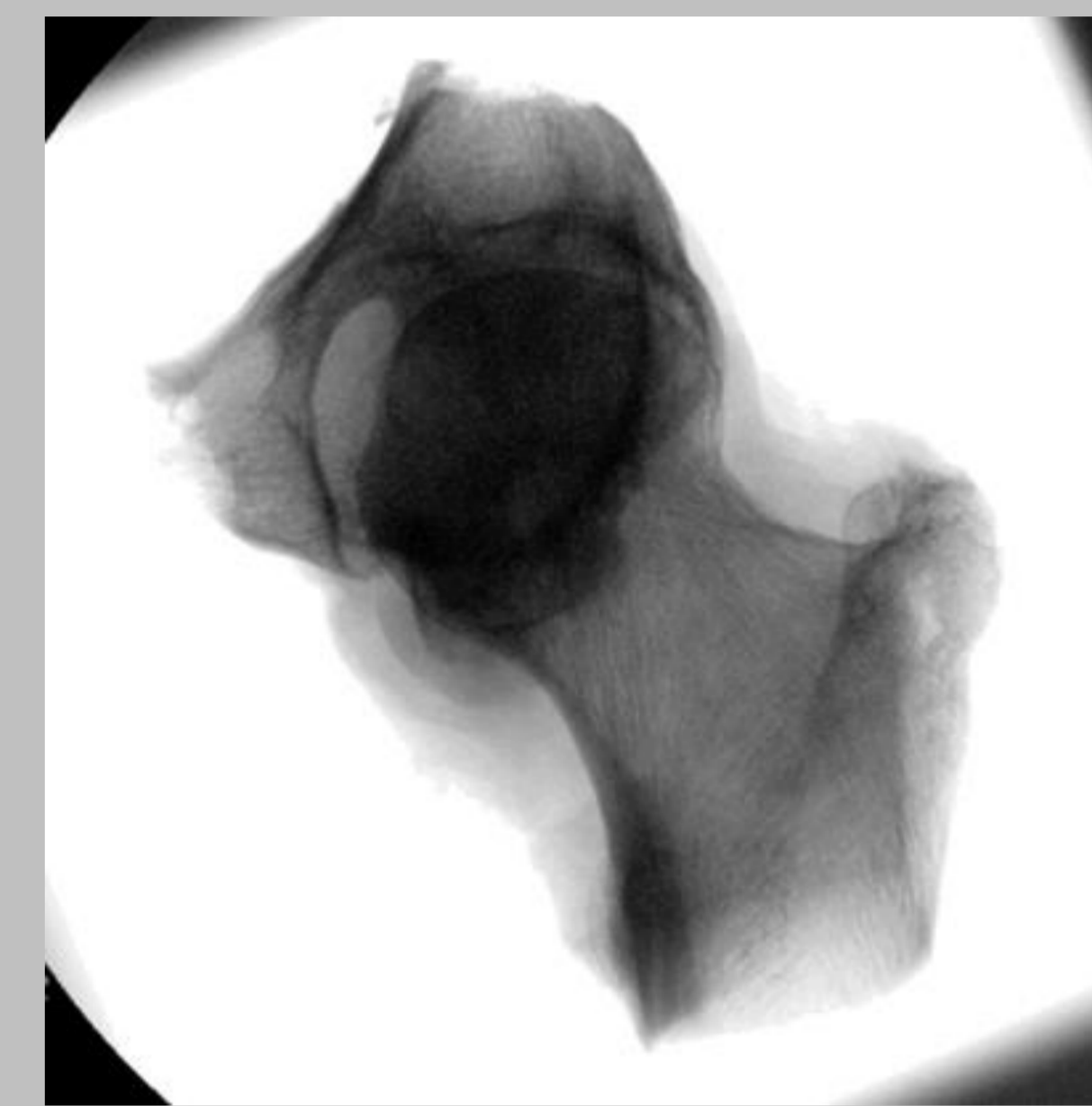


Figure 3

The above image shows the remaining anatomy after resection of the total hip joint after resecting the femur distally of the tumor site (PAO = periacetabular Osteotomy, OT = Osteotomy).

At the right, an X-ray of the resected, intact hip joint.



RESULTS

As shown in the pictures, the patient was positioned in a lateral decubitus position. To approach the hip, a Kocher-Langenbeck (posterior) approach to the hip was performed. Reconstruction was realized in 2 cases with a Burch-Schneider reinforcement cage, in the other case with a LUMIC prosthesis. In all three cases, the short follow-up showed excellent functional outcome and only one minor complication; a subcutaneous hematoma for which transfusion was necessary.

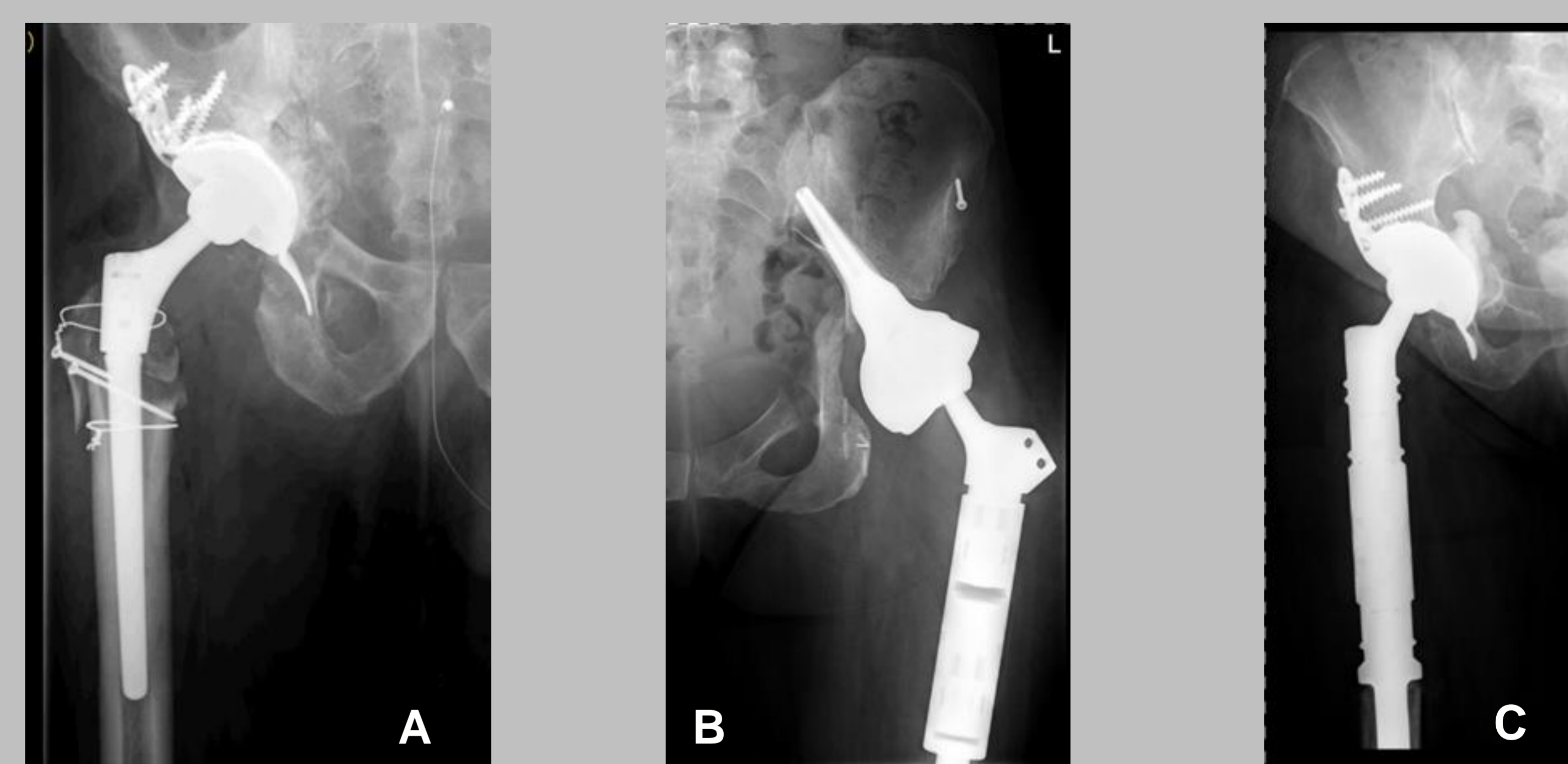


Figure 4 – The postoperative radiologic images

CONCLUSION

This approach to the hip joint shows promising results in treating tumors of the periacetabular region. Further research to discover the long term functional outcome is necessary.

HIGHLIGHT

The posterior approach to the hip joint could be a good alternative for other approaches in periacetabular oncologic resections.