The Pararectus Approach - A Versatile Option In Pelvic Musculoskeletal Tumor Surgery

Abstract ID : 1295
Submitted by : Christophe Kurze the 2016-02-14 18:29:50
Category : Pelvic bone tumours
Typology : Communication orale / Oral communication
Status : Validated
Authorisation to disclose : Yes/Oui

Introduction
Pelvic tumor surgery is one of the most complex fields in musculoskeletal oncology. Surgical treatment of pelvic bone and soft tissue tumors is associated with a high risk of complications. The utilitarian pelvic incision, an extended ilioinguinal/iliofemoral approach has been well established to address pelvic tumors. However, as an extrapelvic approach it offers limited access to the intrapelvic neurovascular structures. The pararectus approach, an intrapelvic anatomical approach with extraperitoneal access to the pelvis has been established previously for the treatment of pelvic and acetabular fractures. The approach avoids the medial flank of the utilitarian approach and can be extended distally and intraperitoneally.

The study aimed at investigating the feasibility of this approach for pelvic tumor surgery and the possibilities of combining this approach with standard approaches to the hip joint.

Methods
10 patients (6 male/4 female) with a mean-age of 53.9 ± 18.7 years that underwent musculoskeletal tumor surgery of the pelvis between 2010 and 2015 were retrospectively reviewed. 6 patients were treated for a malignant tumor (Chondrosarcoma n=2, high-grade sarcoma/NOS n=2, myxofibrosarcoma n=1, malignant fibrous tumor n=1). 4 patients were treated for a benign (lipoma n=3) or a locally aggressive tumor (desmoplastic fibroma n=1). Tumor resections were performed via the pararectus (n=3) or extended pararectus approach (n=2). In 5 cases, the pararectus approach was combined with extrapelvic approaches including the Kocher-Langenbeck- (n=1), trochanteric flip (n=1), and modified Gibson approach (n=3). The minimum follow-up was 3 months. The mean follow-up was 10.9 ± 8.3 months (3-30 months). The successful execution of the planned resection served as the primary outcome parameter. Secondary outcome parameters were major and minor complications, blood loss and duration of the intervention. Major complications were defined as complications requiring surgical intervention.

Results
In all cases the tumor resections were carried out according to the preoperative plan. In 5/10 cases R0 resections were performed; 5/10 cases were planned R1 resections. Blood loss was 3431 ± 5392 ml. Mean duration of the surgeries was 5.8 ± 4.3 hours. 4 major complications were observed in 2 cases (vascular injury requiring mass transfusion n=1, deep infection n=2, iliac vein thrombosis n=1, total hip arthroplasty dislocation n=1). All major complications were unrelated to the approach and were controlled with the same or repeat surgical intervention. 3 minor complications (scar hernia n=1, intraoperative-transfusion n=4, meralgia paraesthetica n=1) were observed in 4 cases.

Conclusions
Pelvic tumor surgery remains challenging due to the complex three-dimensional anatomy and the proximity to vital neurovascular structures. The present study showed the pararectus approach achieved good exposure of the hemipelvis and intrapelvic neurovascular structures. Furthermore, distal extension towards the anterior and the adductor compartment to address extrapelvic tumor growth proved to be uncomplicated. The possibility to combine the approach with standard approaches to the hip joint allowed for single-stage reconstructions of the pelvis and the hip joint without sacrificing surgical margins and function. The pararectus approach is a versatile option adding to the established approaches for musculoskeletal tumor surgery of the pelvis.

Keywords : Musculoskeletal Tumor, Surgery, Pelvis, Pararectus Approach, Sarcoma
Authors :
References : , , ,

Authors

Christophe Kurze 1, Marius J. B. Keel 1, Klaus A. Siebenrock 1, Frank M. Klenke 1,
1. Department of Orthopedic Surgery, Inselspital, Bern University Hospital, Bern, SWITZERLAND

Authors (raw format)

Kurze Christophe - email : Institution : Inselspital, Bern University Hospital Department : Department of Orthopedic Surgery City : Bern Country : SWITZERLAND Speaker : Yes