

**FC-085****Results of massive osteochondral allograft reconstruction for tumors at the knee area**

T. Tomas, P. Janjek, J. Cerny, S. Ondrjek, L. Pazourek, M. Mahdal

1st Orthopaedic Department, St. Anne's University Hospital, Brno, Czech Republic

Background: Limb preservation is now the standard method of treatment for most bone tumors. Limb-salvage operations in malignant bone tumors have been shown to have similar recurrence rates to amputation.

There are a variety of reconstruction options after excision of distal femoral and proximal tibial bone tumors including metallic prostheses (megaprotheses), expandable prosthesis for children, composite of an allograft and prosthesis, arthrodesis of the knee, reconstruction using autografts, allografts and reimplantation of sterilized tumor bone (after autoclaving/pasteurisation /microwave / liquid nitrogen/irradiation), rotationplasty remains an alternative. Osteochondral allograft or total knee replacement are used to preserve joint movement in patients with bone tumours of the distal femur and the proximal tibia. Each of these techniques has different indications and complications.

In the osteochondral allograft surgical procedure, a higher incidence of infection, fractures, and loss of fixation is reported. Nevertheless, it has the advantage of minimising bone resection and preserving the articular surface of the distal femur (or proximal tibia) and patella. Better final functional results were found compared with other methods.

Patients and Methods: In our paper we retrospectively surveyed the results of 39 bone osteochondral allograft reconstructions in the knee area performed in our department between years 2000-2012. In those years we performed 19 distal femoral and 20 proximal tibial resections for bone tumours and consequent reconstruction of resected area using osteochondral allograft. There were 17 females and 22 males in the group. Average age was 29, 6 at the time of procedure (range 5 - 51 years), mean follow up was 7, 4 years (range 2-14 years). The basic diagnosis was osteosarcoma at 24 cases, giant cell tumor at 12 cases, and Ewing sarcoma at 3 cases.

Results: The complications includes generalization of tumor 9x, local recurrence 12x, allograft necrosis 4x, fracture at the site of allograft 5x, pseudoarthrosis 6x, instability 8x, arthrofibrosis 3x, infection 1x, other complication 5x. There were 7 patients without severe complication. Conversion to tumorous total knee arthroplasty was used in 9 cases as final solution, amputation or disarticulation of the limb in 6 cases. 16 patients from our group survived with in situ allograft reconstruction with average survivor time 5, 4 years (2 -13 years). However in almost all of these patient signs of osteoarthritis occurs and/or they have some instability, stiffness or deformity of the joint and they are planed to conversion to tumorous total knee arthroplasty in the future.

Conclusion: Reconstruction of resected bone in the knee area with osteochondral allograft is method of choice. However the results of osteochondral allografts are not very good, the allograft could provide sufficient bony support for composite of an allograft and prosthesis as final solution of disease.

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