

MODULAR PROSTHETIC RECONSTRUCTION AFTER TUMOUR RESECTION OF THE DISTAL HUMERUS

Philipp FUNOVICS, Reini SCHUH, Jochen HOFSTAETTER, Martin DOMINKUS, Rainer KOTZ

Medical University of Vienna Department of Orthopaedics, Vienna (AUSTRIA)

BACKGROUND: Methods of reconstruction of bony defects in the distal humerus are limited. Modular tumour prostheses offer a solution not only in cancer but also in bone loss due to infection, trauma or failed primary elbow arthroplasty. **PATIENTS:** 48 patients underwent reconstruction of the elbow due to post-traumatic joint degeneration (13) or after resection of a bone tumour (35) by use of a modular humerus and elbow prosthesis at our institution since June 1989. There were 22 cases of metastatic disease and 13 primary tumours in 21 men and 14 women with an average age of 53.9 years (5.5 to 90.3). 29 patients received the prosthesis as therapy of first choice, 6 after failure of other reconstructions. There were 11 total and 24 distal humeral implants. Average follow-up was 43.9 months (1 to 250). **RESULTS:** 19 patients died of their oncological disease. 6 patients required revision for infection including one-stage (3) and two-stage (1) revision, explantation leaving a flail joint (1) and amputation (1). 2 patients with metastatic disease underwent partial resection of the scapula and amputation, respectively, due to recurrent tumours. 2 patients complained about joint instability, all other patients showed stable movement. At latest follow-up average range of motion was 95.3° (40 to 155) in flexion. Flexion contracture was the most common limitation of motion. **CONCLUSION:** Modular tumour prostheses of the distal humerus provide a stable reconstruction of the elbow with satisfactory function. Infection remains the major complication especially in total humeral implants.