【Abstract】Objective To retrospectively investigate the prosthesis survival and complications after custom-made prosthesis replacement of knee tumor. Methods 214 patients with bone tumors around knee joints underwent custom-prosthetic replacement from January 2003 to January 2013, were respectively analyzed. The diagnoses were osteosarcoma(n=132), giant cell tumor(n=53), aneurysmal bone cyst(n=1), fasciculated sarcoma(n=3), malignant fibrous histiocytoma(n=10), chondrosarcoma(n=6), chondroblastoma(n=1), metastatic tumor(n=4) and other types of bone tumors(n=3). The distal femur was affected in 150 patients and the proximal tibia in 64. Results 187 patients were followed up for mean following period of 42 months(30~132 months). Complication occurred in 46 patients: early stage infection or nonunion of wounds(n=15), peroneal palsy (n=3), late infection(n=5), aseptic loosening(n=14), breakage of prosthesis(n=4) and periprosthetic fracture(n=5). Conclusion The complication rate of proximal tibia tumor is higher than the rate of distal femur. Common complication of tumor prosthesis replacement of knee joint are: aseptic loosening, infection or nonunion of wounds, peroneal palsy, late infection, aseptic loosening, breakage of prosthesis and periprosthetic fracture. Rare complication consist: deep venous thrombosis of lower extremity, pulmonary embolism and stiffness of the knee. Common complication of tumor prosthesis replacement of knee joint could be treated and prevented.

【Key words】Bone neoplasms；Knee prosthesis；Postoperative complications