

Long-term results of composite prosthetic reconstruction after en bloc resection of the upper tibia.

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Introduction :

After en bloc resection of the upper tibia for bone sarcomas, the functional result hangs mostly on the value of patellar tendon reattachment and the quality of skin healing.

Material :

From 1982 to 1995, 50 upper tibial reconstructions were made by authors after en bloc resection for primary bone tumors. 13 patients (p.) had a direct skin closure, 37 others benefited of gastrocnemius flap. 5 prostheses were coated with polyethylene and in others with massive bank allograft. In 8 cases, we used only bone graft ; patellar tendon was reinserted, through bone. In other cases, bank allograft was harvested with patellar tendon and patella, and patient's patellar was reattached to the patella of the graft. Weight bearing was immediate in all cases into but active motion was restricted during 45 days to help muscle's reattachment. Median follow up is 106 months (min 24 – max 180).

Results :

Complications were : 18 loosening and 13 infections compelling to reoperate 26 patients and leading to 9 secondary amputations. The gastrocnemius flap is the best prevention of infection : we obtained 9/13 infections without flap, versus 4/37 with flap. Massive stainless steel prosthesis coated with polyethylene doesn't provide a reliable reattachment of patellar tendon : extension lag appears in all 5 cases after 6 to 10 months. Best results were obtained with graft of tibia, tendon and patella. Such procedure provides the good length of patellar tendon and permits a reliable suture through patella.

Conclusions :

1. Upper tibia allograft should be harvested with patella and patellar tendon. Such allograft permits a much reliable reconstruction of extension mechanism.
2. Gastrocnemius flap is the best prevention of deep infection.