

Joint sparing limb salvage surgery, techniques and outcome, KHCC experience

Ahmad M Shehadeh, MD

Introduction:

Joint sparing limb salvage surgery (JSLSS) is a further advancement in the techniques and concepts of limb salvage surgery, which make it possible to save not only the limb affected by malignancy, but also, the adjacent joint and/or the physis, added benefits is the preservation of important tendinous attachments like the patellar ligament at the proximal tibia and the gluteus muscle at the greater trochanter, but this procedure is technically demanding due to availability of small length of bone for implant purchase.

Materials and Methods:

Joint sparing in our study was defined whenever the length of available bone remaining for implant or allograft purchase is less than 6 cm up to the joint line in all locations, and for proximal femur is less 8 cm from the hip joint. Fifteen patients received JSLSS ,DF (n=7), PF (n=3), PT(n=2) , humerus (n=3).

Custom made joint sparing prosthesis was used in 12 patients,9 of them for primary reconstruction, and 3 for revision after failed other modality. Three of them are CAD prosthesis with fins , HA coated side plates and no stem, 2 implants were short stem with no HA coating and no side plates, and the remaining 7 implants has short stem, HA coated side plates. Bone allograft was used in 4 patients and fixation was done using locking plate and screws, 3 in the femur, and one in the humerus.

Results:

At mean follow up of 4 years; all patients with bone allograft failed,2 of them revised using another allograft, and 2 using custom made implant.

2/12 patients who had custom prosthesis developed loosening and both of them has short stem with no side plate, those 2 patients had tumor recurrence and metastasis and died of the disease ,All other patients did well, their mean MSTS functional score was 93%, no complications were encountered at the end of the follow up period.

Conclusion;

In our series, those implants with HA coated fins and side plates and those with short stem and HA coated side plates did well at the end of the follow up period, reconstruction with bone allograft has a high failure rate at our series, the early results of using custom made JS prosthesis is encouraging and functional outcome is improved.