



EVALUATION OF QUALITY OF LIFE AND FUNCTIONAL OUTCOMES FOLLOWING LIMB SALVAGE SURGERY IN EXTREMITIES SARCOMAS

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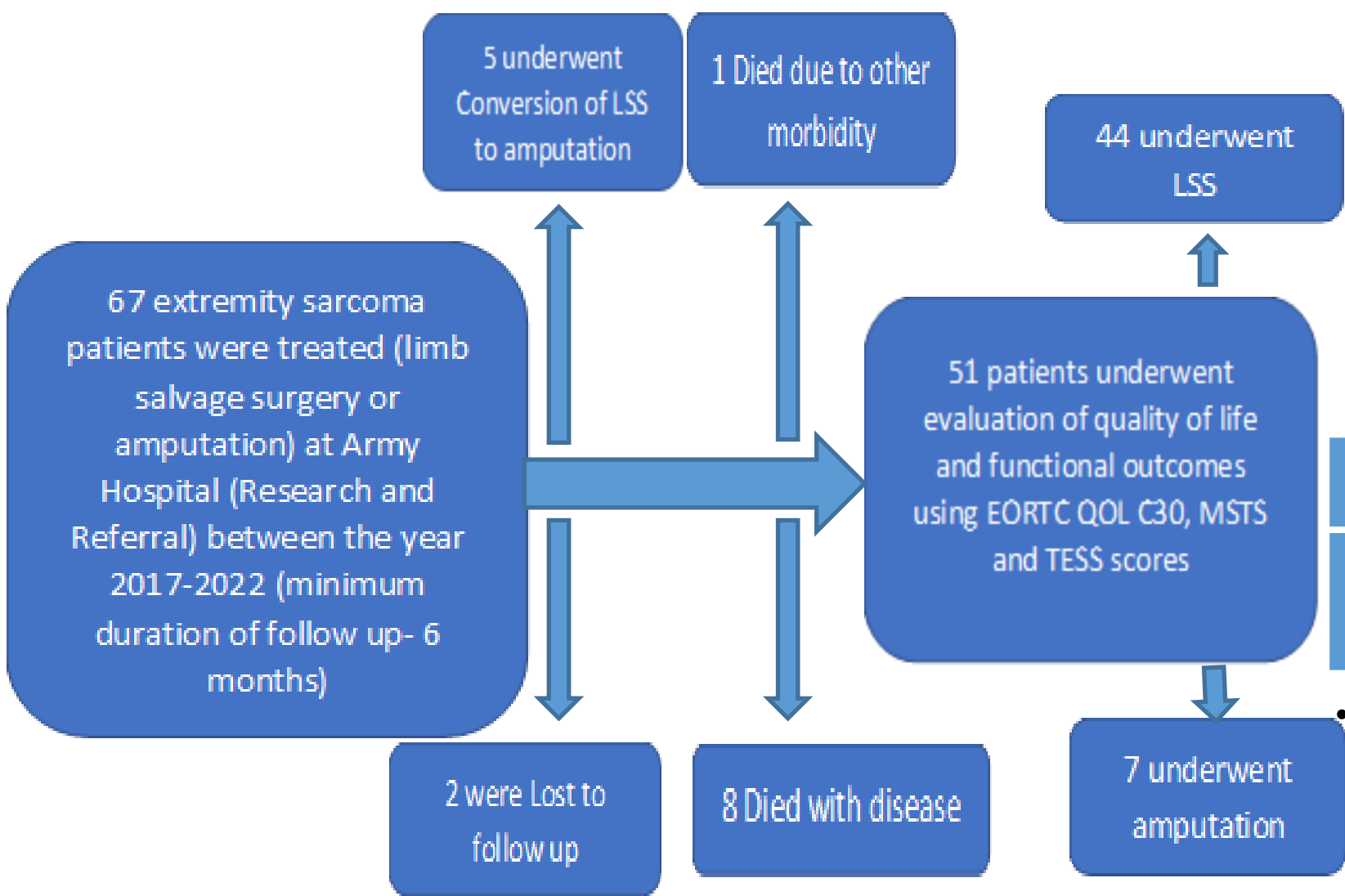
Dr Naveen Kumar Kushwaha, Dr Pradeep Jaiswal, Dr V P Singh, Dr Harish, Dr Prashant Gupta
Army Hospital (Research and Referral), Delhi, India

INTRODUCTION

- Extremity sarcomas (bone and soft tissue sarcomas) were historically treated by amputation, currently multimodal approaches combining wide surgical resection with radiation therapy and/or chemotherapy allow limb-salvage in 90–95% of patients.
- Significant increase in survival rates among musculoskeletal cancer patients has resulted in increased interest regarding the quality of life (QOL) and functional outcomes of the survivors.(1)

MATERIAL AND METHODS

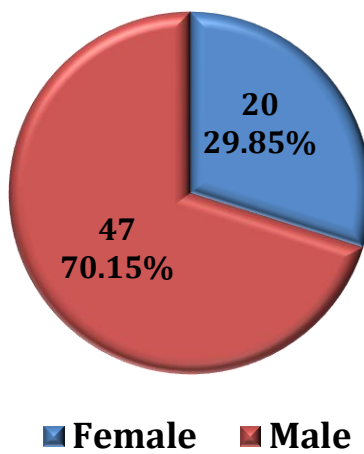
- Observational study of 67 extremity sarcoma patients who underwent surgical intervention (limb salvage surgery or amputation) during a 5 year period (2017–2022) at a tertiary care referral centre in India.
- Inclusion Criteria- All Extremities sarcoma patients who underwent surgical intervention
- Exclusion criteria-Non implant limb salvage and patients with secondary conversion to amputation
- Questionnaires concerning QoL and functional outcomes were sent by post / telephonically or through an interview on outpatient basis for patients with minimum duration of follow up of 6 months.



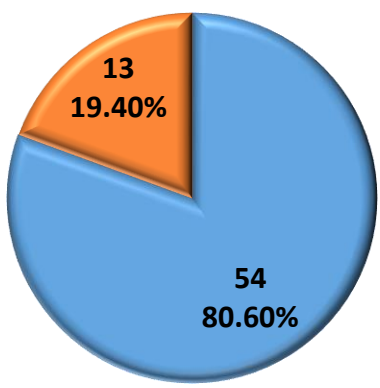
RESULTS

- Over a period of 5 yrs. (2017-2022) total of 67 cases of extremity sarcomas underwent surgical intervention (LSS or amputation).
- DEMOGRAPHICS**--Median age at diagnosis of 28 (15–71) years with 35.82% patients under age of 20 yrs. at presentation.
- The most common histology among bone tumours was osteosarcoma {33 patients (49.25 %)} and the most common histology among soft tissue sarcomas was synovial sarcoma {7 patients (10.45%)} .The most common involved site was distal femur followed by proximal tibia.

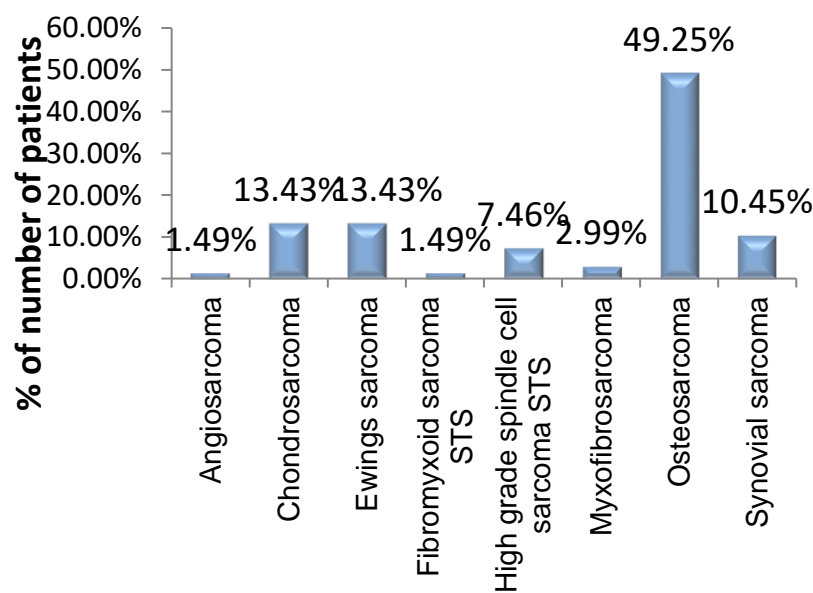
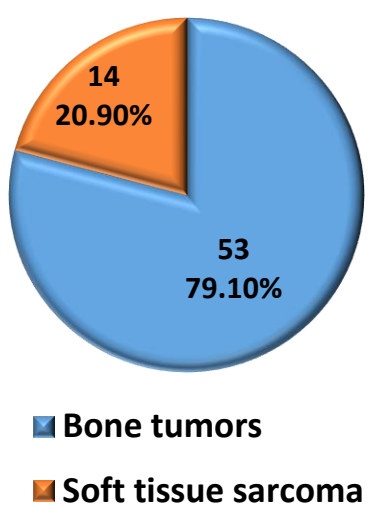
Gender wise distribution



Distribution as per type of surgery



Histology wise distribution



Variable	Mean ± SD	Median(25th-75th percentile)	Range
Duration of follow up(months)	33.31 ± 17.73	36(18-48)	6-60

- 14 patients had complications during follow up out of 51 patients (27.45%). Proportion of patients with complications was significantly higher in limb salvage surgery as compared to amputation. (29.55% vs 14.28% respectively).
- Local recurrence rate was 7.84% (4 patients).

COMPLICATION	NUMBER	TYPE OF SURGERY	TREATMENT
INFECTION	4	• 3 LSS • 1 Amputation	Curettage, debridement and irrigation
LOOSENING/DISLOCATION	4	• 4 LSS	Implant reappplied
PERIPROSTHETIC FRACTURE	1	• 1 LSS	Elongation of endoprosthesis
LOCAL RECURRENCE	4	• 4 LSS	• Amputation • Palliative chemotherapy
AUTOGRAFT FAILURE	1	• 1 LSS	Re grafting

Functional outcomes and QOL assessment using EORTC QOL C30, MSTs and TESS showed no significant difference between patients who underwent amputation and those who underwent a limb-salvage surgery.

EORTC QOL score-C30	Limb salvage surgery(n=44)	Amputation(n=7)	Total	P value
Mean ± SD	84.26 ± 13.48	85.71 ± 9.28	84.46 ± 12.92	0.787*

*Independent T test

Toronto Extremity Salvage Score (TESS)	Limb salvage surgery(n=44)	Amputation(n=7)	Total	P value
Mean ± SD	67.02 ± 9.39	63.68 ± 8.71	66.56 ± 9.28	0.383*

Musculoskeletal Tumor Society Score (MSTS)	Limb salvage surgery(n=44)	Amputation(n=7)	Total	P value
Mean ± SD	69.84 ± 14.05	62.37 ± 11.66	68.81 ± 13.89	0.189*

EORTC QOL C30, TESS and MSTs scores in lower extremity LSS were significantly higher as compared to upper extremity LSS.

EORTC QOL score-C30	Upper limb(n=8)	Lower limb(n=36)	Total	P value
Mean ± SD	72.9 ± 15.9	86.79 ± 11.69	84.26 ± 13.48	0.007*

Same results in TESS and MSTs scores

On performing univariate and multivariate regression analysis to assess for factors influencing QOL and functional outcomes, it was found out that duration of follow up(months), complications, limb involved (lower limb), progression of disease (local recurrence) and health status at last follow up (alive with disease) were significant independent factors affecting EORTC QOL C30, EORTC FS, EORTC SS, TESS and MSTs score after adjusting for confounding factors.

DISCUSSION AND CONCLUSION

- The results of this observational study indicate that in extremity sarcoma amputation and limb-salvage surgery provide similar functional outcomes and quality of life. Similar results have been derived from previously conducted observational studies and meta-analysis.(2)
- Despite this LSS should be considered wherever feasible because of the psychological benefit to the patient due to intact body image, immediate stability and rapid mobilization.
- Also the QOL and functional outcomes for upper limb LSS are inferior to that of lower limb LSS. Plausible explanation is complex functioning of upper limb hence need for better endoprosthesis for upper extremities .
- Further analysis and bigger cohort is required to assess for factors influencing the QOL and functional outcomes in upper limb vs lower limb LSS.

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CONFLICT OF INTEREST

Authors have no conflict of interest.

AUTHORS

- Corresponding author--Dr Naveen Kumar Kushwaha,
- Email Id-- nk8844@gmail.com