

Role of Argon Beam Coagulation in Reducing Recurrence of Giant Cell Tumors by Modified Extended Curettage

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Background

Modified Extended curettage of Giant Cell tumors of Bone is associated with a lower rate of recurrence of the tumor while preserving the adjacent joint. This study was done to estimate recurrence rate and functional outcome after using Argon Beam as an adjuvant for Modified Extended Curettage.

Methods

The study was held at Sir Ganga Ram Hospital, Delhi between April 2015 to May 2018. 25 patients with Giant Cell Tumors meeting all the inclusion criteria were selected for the study. Clinical examination along with X-rays and CT Scan of the affected part was done. Patients underwent Modified Extended Curettage using High speed Burr, Phenol and Argon Beam Photo-Coagulation. Placement of sub-articular bone graft and filling of cavity with bone cement after fixation of cavity with implant. Post-operatively, the patients were given Ibandronate 150 mg once a month for 12 months and followed up for 1 year. They were assessed for any complaints of pain and signs like tenderness, locally raised temperature and decreased range of motion of the adjacent joint. Radiologically, the patients were assessed for any signs of recurrence, uptake of the subarticular graft. Functional status was assessed in terms of weight bearing status and range of motion for patients with tumor in the lower limb and range of motion for the patients with the tumor in the upper limb.

Results

Recurrence was found in 1 patient ie. 4% recurrence rate. 13 out of 14 patients with a tumor in the lower limb had a grade 5 weight bearing status at 6 months from the surgery and a near-physiological range of motion.

Conclusion

Modified Extended Curettage of Giant Cell Tumors using High Speed Burr, Phenol and Argon Beam Coagulation is associated with low recurrence rates of the tumor and is an effective modality in treatment of these tumors.

Article Information

Conference Proceedings: World Congress On Cancer Science and Therapy (Bangkok)

Conference date: 02-03 December, 2019

Inovineconferences.com

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Citation: Nandan B, Kumar S (2019) Role of Argon Beam Coagulation in Reducing Recurrence of Giant Cell Tumors by Modified Extended Curettage. Int J Cancer Treat.

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Figure: Preoperative and immediate post-operative X-rays after Modified Extended Curettage Of Giant Cell Tumor of Distal Femur Right Side.