Treatment With Denosumab In A Recurrent Giant Cell Tumor Of Cervical Spine: A Case Report

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INTRODUCTION:

Recurrent spinal giant cell tumor poses a great challenge to clinician worldwide. With the extensive involvement of surrounding vital structures, wide excision of recurrent spinal giant cell tumor is often impossible.

REPORT:

A 20-year-old boy, history of cervical spinal GCT operated previously, presented with worsening neck pain and neurological deficit for one month. Plain radiographs showed osteolytic lesion at C3-C4 level with focal kyphosis. Computed tomography and MRI revealed heterogenous mass extending to posterior elements. Left vertebral artery V2 segment at C4 level was encased within the mass. Posterior instrumentation of cervical spine from occiput to C5 and tumour debulking was performed. He was subsequently treated with subcutaneous demosumab monthly for 8 doses. Surveillance scans revealed gradual regression of GCT and increased osteosclerosis at the previous lytic area. This patient remained asymptomatic for 2 years.

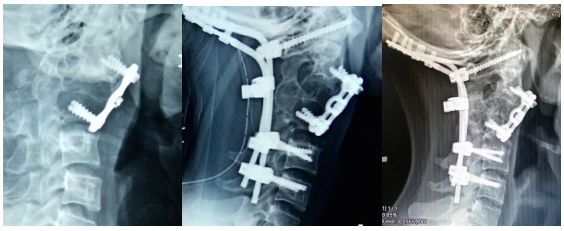

Figure 1: Preoperative radiograph showed a mass arose from C2-C4 body extending to posterior elements. Figure 2: Revision surgery restored cervical alignment. Figure 3: Radiograph at 2 years showed increased osteosclerosis at previously lytic area.

DISCUSSION:

Denosumab, acts as a RANKL inhibitor, was well documented in the literature as a treatment for giant cell tumor. It has high efficacy in inhibiting osteolytic activity contributed by neoplastic mononuclear mesenchymal stromal cells in giant cell tumor. Two-year progression-free survival rate in advanced GCT treated with denosumab was 81% in a recent multicenter large series studies. (1) To date, there is limited literature on complete radiological regression of spinal GCT after treatment with Denosumab. (2)

CONCLUSION:

Two years progression free survival in surgically unresectable recurrent spinal GCT is possible with adjuvant systemic Denosumab.

REFERENCES:

1. Rutkowski P, Gaston L, Borkowska A, et al. Denosumab treatment of inoperable or locally advanced giant cell tumor of bone. European journal of surgical oncology. 2018 Mar 31.

2. Nakazawa T, Inoue G, Imura T, et al. Remarkable regression of a giant cell tumor of the cervical spine treated conservatively with denosumab: A case report. International journal of surgery case reports. 2016;24:22-5.