FC-138

Denosumab in giant cell tumor of bone: innovation or chimera?

G. Beltrami[1], G.G. Baldi[2], G. Scoccianti[3], **A. D'Arienzo**[4], F.R. Campo[5], F. Frenos[1], D.A. Campanacci[1], A. Franchi[3], R. Capanna[1]

[1] *Department of Orthopedic Oncology, AOUC Firenze, Florence, Italy*
[2] *Department of Oncology, Hospital of Prato, Prato, Italy*
[3] *Department of Human Pathology, AOUC Firenze, Florence, Italy*
[4] *Department of Orthopedic, University Palermo, Palermo, Italy*
[5] *Department of Orthopedic, University Messina, Messina, Italy*

Introduction: While the introduction of Denosumab in the treatment of Giant Cell Tumor of Bone (GCTB) has been described by many authors, less are the reports regarding timing and type of surgery and the overall rate of morbidity. We report the effect on surgical downstaging in patients treated with pre and postoperative denosumab in our single institution experience.

Methods: From 2010 to 2014 we have surgically treated 91 patients with GCTB. Eighteen of these were pre-operative treated with denosumab 120 mg SC every 4 weeks for median time of 5.7 months (range 3-6), and then post-operative denosumab every 4 weeks for 6 months. Timing of surgery was based on clinical findings and modification of radiological images (according to RECIST criteria). RESULTSAll pts were evaluable, n=10 women and n=8 men with an average age of 36 years (range 19-72); most had the lesion in the lower limb (n=5 distal femur, n=2 proximal femur, n=3 distal tibia, n=2 proximal tibia, n=2 proximal fibula), 3 in the upper limb (n=1 distal humerus , n=1 distal radio, n=1 proximal radio) and 1 in the sacrum. 17 pts were treated at first diagnosis and 1 pts at relapse. All patients were operated, 15 with curettage (83%), 3 with resection (17%). The resected bone were or in not weight bearing bone (proximal fibula and radius) or in extensively destroyed bone (one distal femur). The pts who has undergone surgery with no severe morbidity was 83.3% and the preservation rate of the native joint function was 94.4%. The median follow-up is 12.3 months; to date, 2 pts are relapsed and restarted denosumab at the same schedule.

Conclusion: Denosumab in GCTB seemed to be effective in clinical practice, with effective downstaging of tumoral size, less rate invasive surgical procedures and a good preservation rate of joint function. Despite the encouraging results, long term and blinded study has to confirm the timing of treatment and possible long term complication drug related.