

**FC-177****Oncologic and functional result after treatment of patients with fibular osteosarcoma****P. Ruggieri**<sup>1</sup>, G. Trovarelli<sup>1</sup>, E. Pala<sup>1</sup>, G.I. Piraino<sup>1</sup>, T. Calabrò<sup>1</sup>, B. Haddad<sup>1</sup>, A.F. Mavrogenis<sup>2</sup>, A. Angelini<sup>1</sup><sup>1</sup> *II Department of Orthopedics, University of Bologna, Istituto Rizzoli, Bologna, Italy*<sup>2</sup> *1st Department of Orthopaedic Surgery, Attikon University General Hospital, University of Athens, Athens, Greece*

**Introduction:** Fibular osteosarcoma is rare and historically associated with a worse prognosis compared to other localization. Objective was to analyze oncologic outcomes, complications and functional result in patients with fibular osteosarcoma in relation to different sites and surgical techniques.

**Methods:** Between 1985 and 2011 were treated 61 patients with fibular osteosarcoma: proximal fibula (53 cases) or distal fibula (8 cases). Surgical treatment was amputation in 15 patients and resection in 46 patients. Tumor volume was calculated. Oncologic results, complication and functional result were analyzed; amputation and resection were compared.

**Results:** At a mean follow up of 9 years (9 mos - 27 yrs), 36 patients were NED, 1 AWD and 24 DWD. Disease-free survival was 54.5% at 10 and 20 years, lower in proximal fibula than in distal fibula ( $p = 0.0144$ ), in patients treated with amputation than in patients treated with resection ( $p = 0.0196$ ) and in patients with tumor volume  $> 400$  cc ( $p = 0.0392$ ). There were no complication after amputation, while there were 4 complications after resection: equinus talipes (1 case), claw toes (1 case) and varus-valgus knee instability (2 cases). Functional results (MSTS) were good/excellent in all patients, better after resection.

**Conclusions:** Fibular OS remains associated with a worse prognosis compared to other localization. Actually, limb salvage is the treatment of choice for fibular osteosarcoma; however, amputation remains a viable alternative in case of neurovascular involvement or higher tumor volume. Functional results were satisfactory in all cases, better after resection.