

**Clinical data.** Twenty subjects (15 women; 75%; average age, 69,8 yr; standard deviation 12,8 yr; age range 36 to 86 yr) were selected. The underlying diagnoses included breast cancer in 7, multiple myeloma in 6, prostate cancer in 4, and osteoporosis in 3. The bisphosphonates (BPs) used were zoledronate (18 subjects, 90%) and alendronate. Thirty-five percent of the lesions were located in the mandible (7 subjects). All the BRONJ lesions were symptomatic. An oral-antral communication was detected in 13 cases, a pathologic fracture in 1 and extra-oral fistula in 6 cases. The main event leading to BRONJ was extraction (13 subjects, 65%).

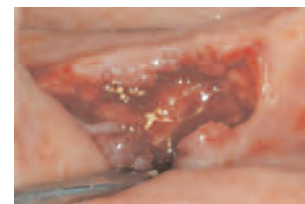
**Effect of surgical treatment.** 68% of subjects showed improvement after surgery. Among the unsuccessful ones (7 subjects), two were successfully treated with segmental mandibulectomy and microvascular free flap reconstruction (MFFR).

**Conclusion.** The majority of the subjects showed significant improvement with conservative surgical technique. In case of unsuccessful outcome, major resective interventions may be considered.

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## The combination of laser-assisted surgery with PRP for the treatment of BRONJ in cancer patient. A pilot study



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**Aim.** Bisphosphonate-related osteonecrosis of the jaw (BRONJ) is a well-known potential complication of bisphosphonates (BPs) therapy and its treatment could reckon on different approaches. Recently, encouraging results for BRONJ were showed from some clinical studies using Er, Cr: YSGG laser-assisted surgery. Platelet-Rich Plasma (PRP), a new approach to promote tissue regeneration and healing, may be a promising complementary therapy. The aim of this pilot study is to study the effectiveness, in terms of clinical healing, of a combined treatment (laser-assisted surgery and topical PRP) for BRONJ in a group of cancer patients.

**Methods.** Ten oncological patients (3 males, 7 females; aged 69-89 years, mean age 76.2±5.8) with BRONJ were consecutively recruited. BRONJ was classified (T<sub>0</sub>) according to. All patients underwent pre- and peri-operative antibiotic prophylaxis, and preparation of autologous PRP; the following combined surgical protocol was applied: i) exposure of the surgical area, through the creation of surgical edges; ii) curettage of the necrotic bone and, if present, sequestrectomy, by using a Er, Cr: YSGG laser; iii) application of autologous PRP over the entire bone cavity; iv) suture of surgical flaps. All patients performed a CT after 3 months from surgery (T<sub>1</sub>) in order to re-stage of the disease. Successful treatments were considered the complete healing and the radiological improvement (transition from a higher stage to a lower one).

**Results.** At T<sub>0</sub> 6/10 patients were stage IB, 2/10 were stage IIA and 2/10 were stage IIB. At T<sub>1</sub>, 3/10 (30%) cases (2 cases IB and 1 case IIB) showed no clinical and radiological signs of BRONJ relapse; 5/10 (50%) cases (4 cases IB and 1 case IIB) showed clinical improvement, whereas 2/10 (20%) (both IIA) showed no-improvement.

**Conclusion.** The association of laser-assisted surgery and topical PRP, firstly investigated in this study, seems useful in BRONJ healing among cancer patients. Further investigation is necessary in order to validate these preliminary results.

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