AZITHROMYCIN TREATMENT OF DRUG-INDUCED GINGIVAL HYPERPLASIA IN RENAL TRANSPLANT PATIENTS. Nayer Abo El Saad, Una El-Shinnawi, and Adel Bakr, Mansoura University, Mansoura, Egypt.

Objectives. The objective of the study was to evaluate and compare the efficacy of azithromycin therapy in reducing drug-induced gingival hyperplasia as an adjunctive therapy in renal transplant patients (RTP) under cyclosporine (CsA) and those under tacrolimus (Tcr) therapy.

Methods. A total 570 patients were screened from the outpatient Renal Transplant Clinic of the Nephrology Centre, Mansoura University, Egypt. Those patients had received kidney transplants between February 1992 and July 2009. Seventy-five kidney transplant recipients (48 men, 27 women) diagnosed to have early to moderate gingival overgrowth were included in the study. These patients had been taking either CsA or Tcr for more than 6 months. The patients were randomized equally into 3 groups. Two groups had received 500 mg azithromycin for 5 days, given at baseline only, whereas the control group received placebo in addition to the oral hygiene program. The clinical periodontal parameters were assessed and included the plaque index, bleeding on probing index, the gingival overgrowth index, and the probing depth. They were evaluated at the baseline and at follow-up time (1, 3, 6 months).

Results. At baseline, all groups were similar in the clinical parameters with no statistically significant difference (P > .05). At follow-up time intervals, all groups showed improvement over baseline measurements; however, both groups who received azithromycin showed more favorable results manifested by reduction of gingival bleeding and the depth of gingival sulci; however, this improvement was more in the CsA group than the Tcr group and the difference was statistically significant (P < .05).

Conclusions. Azithromycin is an effective therapeutic tool in the management of drug-induced gingival overgrowth, as it is conservative, well tolerated, and rapidly effective with minimal side effects; especially in renal transplant patients under cyclosporine therapy.

SKELETAL BIODISTRIBUTION OF FLUORESCENTLY LABELED BISPHOSPHONATE IS ANATOMIC SITE-DEPENDENT. Demin Wen, Ellis Golub, Sunday O. Akintoye, University of Pennsylvania, Philadelphia, PA.

Objectives. Long-term administration of bisphosphonates has been associated with bisphosphonate-related jaw osteonecrosis (ONJ). A potential etiologic factor is disproportionate concentration of bisphosphonate in the jaws, but it is unclear if regional biodistribution and bioavailability of bisphosphonates is site-dependent. We tested in rats the hypothesis that skeletal biodistribution and release of pamidronate (a nitrogen-containing bisphosphonate) is anatomic site-dependent.

Methods. Four NIH-Foxn1nu rats received tail vein injection of 80 nmol/kg body weight of fluorescently tagged pamidronate (OsteoSense® 680) followed by optical imaging after 24 hours. After the rats were killed, individual bone parts were recovered and rescaned using similar in vivo imaging parameters. Bound bisphosphonate in bone parts was desorbed using sequential EDTA decalcification. Bisphosphonate signal intensity per unit area normalized to adjacent background intensity was expressed as relative fluorescence units (RFUs) after defining specific regions of interest (ROIs) correlating with bone sections subjected to bisphosphonate desorption. Recovered labeled bisphosphonate was measured with a fluorometer, whereas calcium released in solution was measured with an atomic absorption spectrophotometer. Mean site-specific RFU was correlated with bisphosphonate and calcium amounts from corresponding bone sections. Skeletal site differences of ROIs were analyzed and compared based on oral, axial, and appendicular regions. Data expressed as mean ± standard deviation were analyzed by 1-way ANOVA followed by Dunn-Sidak post hoc multiple comparisons with statistical significance set at P < .05.

Results. Bisphosphonate signal intensity was similar in oral and appendicular bones but lower in axial bones; however, liberation of hydroxyapatite-bound bisphosphonate following sequential EDTA decalcification resulted in significantly higher bisphosphonate release from oral bones relative to axial and appendicular sites (P < .05).

Conclusions This study demonstrated regional site disparity in rat skeletal uptake and release of bisphosphonate in oral, axial, and appendicular bones that suggest possible preferential bisphosphonate uptake in the jawbone.

Funding sources: NIH/NAMS research grant AR050950, University of Pennsylvania Research Foundation and USPHS/NIH/NCI grant 5K08CA120875-05.

Data were presented at the American Society for Bone and Mineral Research Meeting, Toronto, Ontario, September 16-20, 2010.


Objectives. RAS is a painful condition of unknown etiology affecting over 2.5 billion individuals worldwide. Because vitamin deficiencies have been implicated as a possible cause of RAS, we hypothesized that vitamin supplementation may be beneficial. The goal of this study was to examine the effects of daily multivitamin supplementation on incidence and duration of RAS episodes.

Methods. Adult patients with idiopathic minor RAS were randomized to daily multivitamin (n = 83) or placebo (n = 77) for 1 year. The active medication contained 100% of the reference daily intake (RDI) of the essential vitamins. Subjects recorded onset and duration of RAS episodes, mouth pain, normalcy of diet, and treatment compliance in study diaries. Subjects were asked to come in for study visits at baseline, at 6 and 12 months, and during RAS episodes for verification. Number of new RAS episodes was compared between the 2 groups using an analysis of covariance (ANCOVA) with treatment as the factor and length of study participation as the covariate. Duration of RAS episodes was compared using a linear mixed model with treatment as the factor and duration in days as the dependent variable.

Results. There was no significant difference in the mean number of new RAS episodes between the multivitamin (4.06 episodes) and placebo (4.27 episodes) arms during the study.