EFFECT OF NON-SURGICAL PERIODONTAL THERAPY ON CYCLOSPORINE INDUCED GINGIVAL OVERGROWTH IN RENAL TRANSPLANT RECIPIENTS

by

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Renal transplantation is the treatment of choice for many patients with end stage renal disease. Transplantation procedure necessitates the use of immuno-suppressive drugs to prevent transplant rejection. Cyclosporine A (CsA) is a potent immunosuppressive drug widely used in the field of organ transplantation to prevent graft rejection. The clinical use of CsA is often complicated by several well documented adverse effects including nephrotoxicity, hepatotoxicity, neurotoxicity, hypertension and gingival overgrowth (GO).

Several risk factors have been proposed for CsA induced gingival overgrowth (CsA-GO) including age, gender, periodontal health parameters, pharmacological variables of the drug, concomitant use of nifedipine, and genetic susceptibility. However there are some studies which refute these risk factors for being contributory to CsA-GO. Since periodontal health parameters are considered as profound contributory factors for CsA-GO in renal transplant recipients elimination of these factors are expected to either reduce or prevent CsA-GO. Thus professional plaque control by means of Non-surgical periodontal therapy (NSPT) is expected to reduce the CsA-GO. Therefore the present

study was focused on to investigate the effect of NSPT on CsA-GO. In addition, the relationships between age, gender, periodontal and pharmacological variables to CsA-GO were also investigated.

Fifty renal transplant recipients were randomly allocated to test and control groups. Periodontal examination was carried out at first month of transplantation followed by three consecutive reviews in two months intervals. At the initiation of the study, oral hygiene instructions were given to all the patients. In the test group NSPT included supra and sub gingival scaling using hand and ultrasonic instruments.

Mean age of the sample was 34.8 years (SD+/-9.9). It was observed that prevalence of significant GO was 34% in the total sample. Only 5 patients (20%) of the test group who underwent NSPT developed significant GO whereas 12 patients (48%) developed significant GO in the control group. This difference was statistically significant ($P<0.05$). Hence, plaque control modality allocated had a significant impact on the development of CsA-GO. There was a significant relationship between GO and plaque index, bleeding index, loss of attachment and serum CsA level ($P<0.05$). However no relationship could be observed with regard to dose of CsA .

The present study reveals that professional plaque control by means of NSPT is highly effective in achieving and maintaining good periodontal health of renal transplant recipients and thus reduces the occurrence and severity of CsA-GO. Therefore this study emphasizes the need for meticulous oral care in renal transplant recipients to prevent or minimize this CsA-GO.