

## Brazilian Oral Research

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### Abstract

[SPOLIDORIO, Luis Carlos](#) et al. Effects of long-term cyclosporin therapy on gingiva of rats: analysis by stereological and biochemical estimation. *Braz. oral res.* [online]. 2005, vol.19, n.2, pp. 112-118. ISSN 1806-8324. doi: 10.1590/S1806-83242005000200007.

Cyclosporin A (CsA) is used as an immunosuppressive agent and its prominent side effect is the induction of gingival overgrowth, which remains a significant problem. The risk factors appraised include the duration of treatment. However, there are no stereological and biochemical studies exploring the effects of long-term CsA therapy on gingival tissue. The purpose of the present study was to investigate the level of TGF- $\beta_1$  in saliva and describe the densities of fibroblasts and collagen fibers in the gingival tissue of rats treated with CsA for long periods. Rats were treated for 60, 120, 180 and 240 days with a daily subcutaneous injection of 10 mg/kg of body weight of CsA. At the end of the experimental periods, saliva was collected for the determination of TGF- $\beta_1$  levels. After histological processing, the oral epithelium and the connective tissue area were measured as well as the volume densities of fibroblasts (Vf) and collagen fibers (Vcf). After 60 and 120 days of CsA treatment, there was a significant increase in Vf and Vcf as well as a significant increase in TGF- $\beta_1$  levels. After 180 and 240 days, reduction in the gingival overgrowth associated with significant decreases in the level of TGF- $\beta_1$ , and also decreased Vf and Vcf, were observed. The data presented here suggest that after long-term therapy, a decrease in TGF- $\beta_1$  levels occurs, which might contribute to an increase in the proteolytic activity of fibroblasts in the gingiva, favoring the normality of extracellular matrix synthesis.






Keywords : Cyclosporine; Stereological analysis; Biochemical analysis; Gingival hyperplasia.

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