

## **Inhibition of CsA-induced Gingival Overgrowth by Topical Mitomycin C**

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**Introduction:** Cyclosporin is a potent immunosuppressant drug commonly used to prevent organ transplant rejection. Gingival overgrowth (GO) is one of several oral side-effects of cyclosporin A. The objective of the present study was to investigate the effect of topical mitomycin C (MMC) on inhibition of CsA-induced GO in canine renal transplantation.

**Materials and methods:** Maxillary gingivectomy was performed in two dogs showing the development of GO during long term CsA treatment after renal transplantation. After surgery, topical MMC (1.0mg/ml) or isotonic sodium chloride solution (control) were repeatedly applied every day during first week and then every three days until 4 weeks. The severity of GO based on the gingival overgrowth index was examined weekly. The histopathologic examination was performed at 8 weeks after gingivectomy.

**Results:** In the control, the earliest gingival changes were observed in the interdental papillae between the third incisor and the canine teeth at the first week post-gingivectomy. At 6 weeks the degrees of GO were grade 1, 2 in the control gingiva, however any detectable changes were not observed in the MMC-treated gingiva. Histological results of the MMC-treated gingiva showed an decrease not only in the proliferation of fibroblasts but in the deposition of collagen and extracellular matrix within the gingival tissue compared to the control.

**Clinical relevance:** This study shows that topical MMC inhibits the CsA-induced GO in organ transplantation.

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