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A technique for the treatment of maxillary sinus membrane perforations occurred during endodontic surgery: a prospective comparative evaluation

Tecnica per il trattamento di perforazioni del seno mascellare in chirurgia endodontica. Valutazione prospettica comparativa

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KEYWORDS
PRP;
Endodontic surgery;
Maxillary sinus;
Quality of life;
Complications.

Abstract
Objectives: The aim of this study was to evaluate the use of PRGF in endodontic surgery to treat sinus membrane perforation.
Materials and methods: A total of 20 patients (ten per group) were included. In the control group the lesion of the sinusal membrane was treated with collagen sponge. In the test group PRGF was used to close the communication with the sinus cavity.
Results and conclusions: The use of PRGF resulted in better postoperative quality of life parameters if compared to the negative control group. Perceived pain was significantly lower in the test group than in the control one for the first six days after intervention.

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PAROLE CHIAVE
PRP;
Chirurgia endodontica;
Seno mascellare;
Qualità della vita;
Complicanze.

Riassunto
Obiettivi: lo scopo di questo studio è stato di valutare l'uso del PRGF in chirurgia endodontica per il trattamento di perforazioni occasionali della membrana sinusale.
Materiali e metodi: un totale di 20 pazienti (dieci per gruppo) sono stati inclusi. Nel gruppo controllo la lesione della membrana sinusale è stata trattata con una spugna di collagene. Nel gruppo test il PRGF è stato usato per chiudere la comunicazione con la cavità sinusale.
Risultati e conclusioni: l'uso del PRGF ha condotto a una migliore qualità della vita post-operatoria se comparata al gruppo controllo. Il dolore percepito è stato significativamente minore nel gruppo test rispetto al gruppo controllo per i primi sei giorni dopo l'intervento.

Introduction

After the indtroduction of the "modern endodontic surgery" concept, many studies proposed a number of techniques using micros urgical instruments and magnification devices.[1–5] It is known that maxillary molar roots could be anatomically related to the Scheneiderian membrane and this may complicate surgical endodontic approach.[6]

The aim of this study was to evaluate postoperative quality of life after endodontic surgery performed on maxillary molars in cases of infraction or lesion of Schneiderian membrane.

Materials and methods

All patients gave their written informed consent. Patients with one maxillary molar treated with periapical surgery with the occurrence of a lesion of Schneiderian membrane were included.

A total of 20 patients (ten per group) were included. In the control group for 10 patients the lesion of the sinusal membrane was treated with collagen sponge. In the test group PRGF was used to close the communication with the sinus cavity.

A questionnaire was used to evaluate postoperative functions, pain and the occurrence of other symptoms.

Results

The lesions of the membrane were all smaller than 6 mm. Many quality of life parameters were significantly lower in the test group than in the control one (swelling and hematoma). Perceived pain was significantly lower in the test group than in the control one for the first six days after intervention.

Discussion

The lesion of Schneiderian membrane during endodontic surgery on maxillary molars can occur in 9.6–50% of cases.[7]

The use of platelet derivatives in oral surgery found a scientific validation in the evaluation of positive effects on soft tissues, reducing local inflammation and bacterial infection, thus resulting in better quality of life.[8]

In this study, it was shown that PRGF could reduce pain intensity in the treated patients and the duration of such symptom over time.

Clinical relevance

The perforation of sinusal membrane while performing endodontic surgery on maxillary molars did not cause severe complications if the size is small. The use of platelet derivatives may enhance soft tissue healing reducing postoperative quality of life.

Conflict of interest

The authors declare they were free from any conflict of interest when performing the research.

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