

Treatment of an impacted maxillary central incisor. A case report

José Hassi (1), Gonzalo Narea (2), Lidia Bravo (3), Claudia Carmi (3), Paula Zúñiga (3).

(1) Associate Professor, Catholic University of Chile, School of Dentistry, (2) Adjunct Instructor, Catholic University of Chile, School of Dentistry, (3) Private Practice of Dentistry.



Impacted teeth are defined as any tooth embedded in the alveolus due to failure of the eruption process, caused by physiological barriers in the eruption path, or an abnormal position of the tooth germ. This irregular position may be caused by a systemic or local factor. Systemic factors are present in patients with certain syndromes and multiple teeth are affected. A local factor, as a supernumerary tooth, usually may affect only one tooth. This case describes the treatment of an impacted and inverted maxillary incisor, in whose etiology a mesiodens was involved.

A 12-year-old male was admitted in 2010 in TED Clinic, with the complaint of absence of the left central incisor. The anamnesis revealed no history of trauma or loss of the tooth. Radiographic examination revealed an impacted and inverted maxillary left central incisor and a related mesiodens. An interdisciplinary team, including a pediatric dentist, an orthodontist and an oral surgeon, assessed and treated the patient.



Fig. 1: Extraoral initial view.



Fig. 2: Intraoral initial view.



Fig. 3: Initial Orthopantomography.

Introduction

Case Report

Treatment

In the initial surgery, in January 2011, the mesiodens, located in the palate, was extracted and a maxillary fixed space maintainer was installed in order to improve both esthetic and occlusal function.

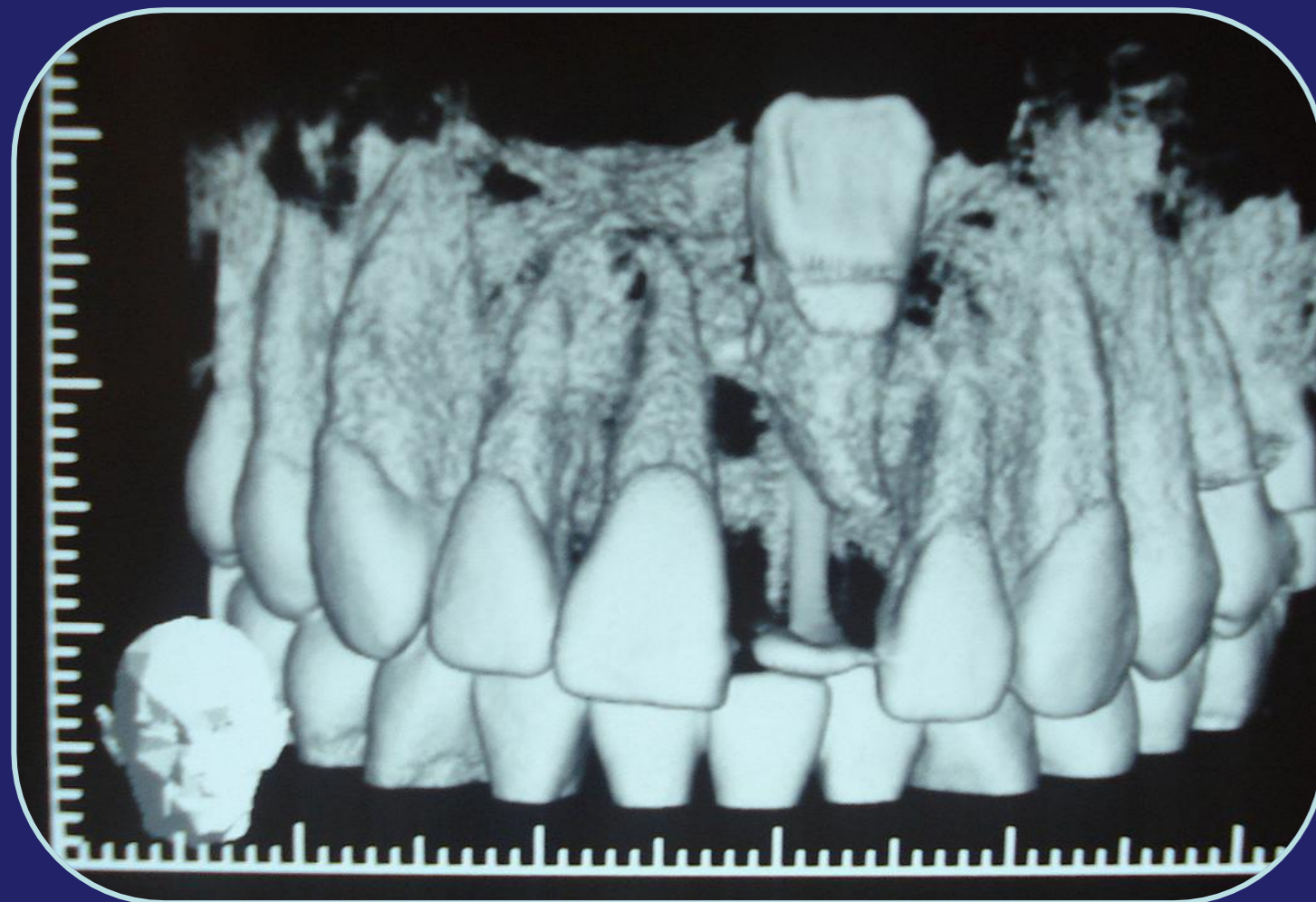


Fig. 4 and 5 :Initial Cone beam, 3D and axial views

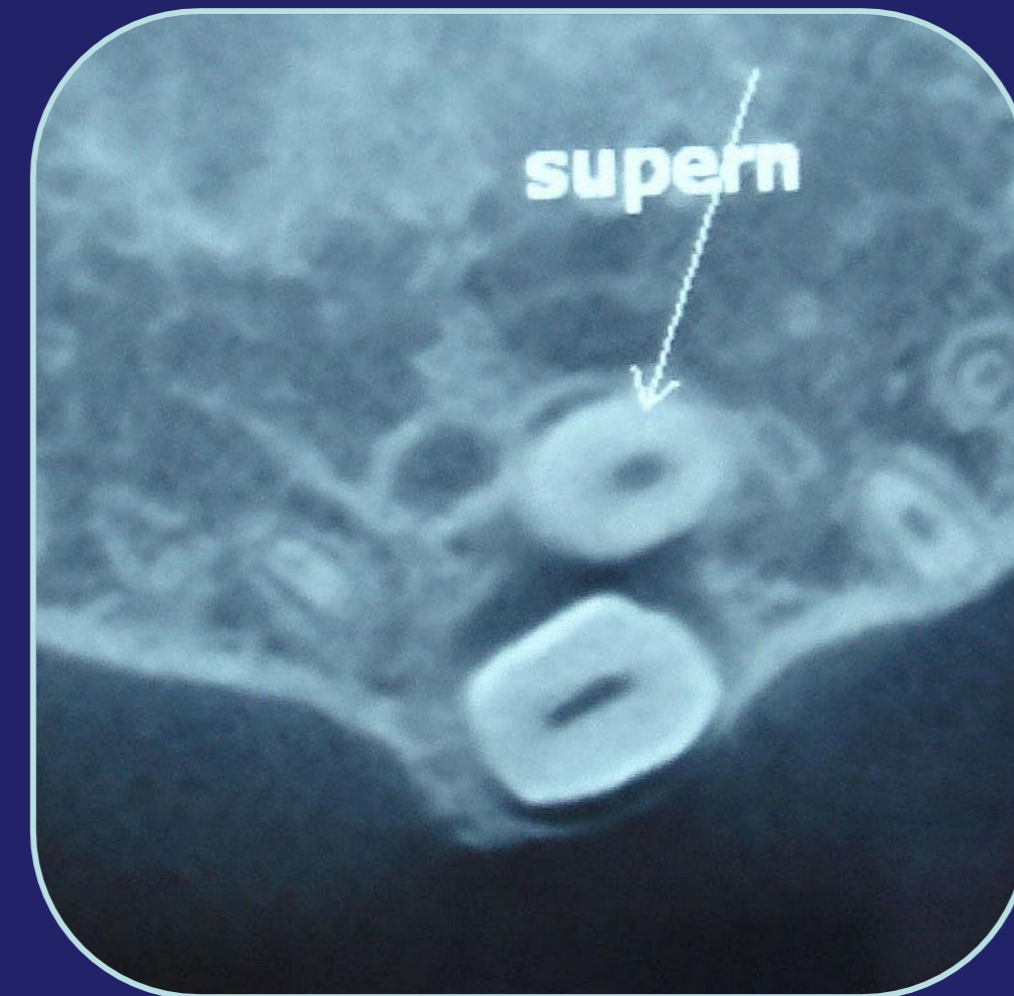


Fig. 6: Space maintainer, intraoral view.



Fig. 7: Space maintainer, extraoral view.

In March 2011, the patient started fixed orthodontic therapy in order to attain the alignment of the teeth.

One year later, a second surgery was performed to carry out the removal and relocation of the incisor. The reimplanted tooth was attached directly to the archwire. Two weeks later, the pulp tissue was removed, and the canal was treated with calcium hydroxide, to try to prevent an infection.

Six months after the surgery, the tooth was not mobile and the control radiography showed external radicular resorption.

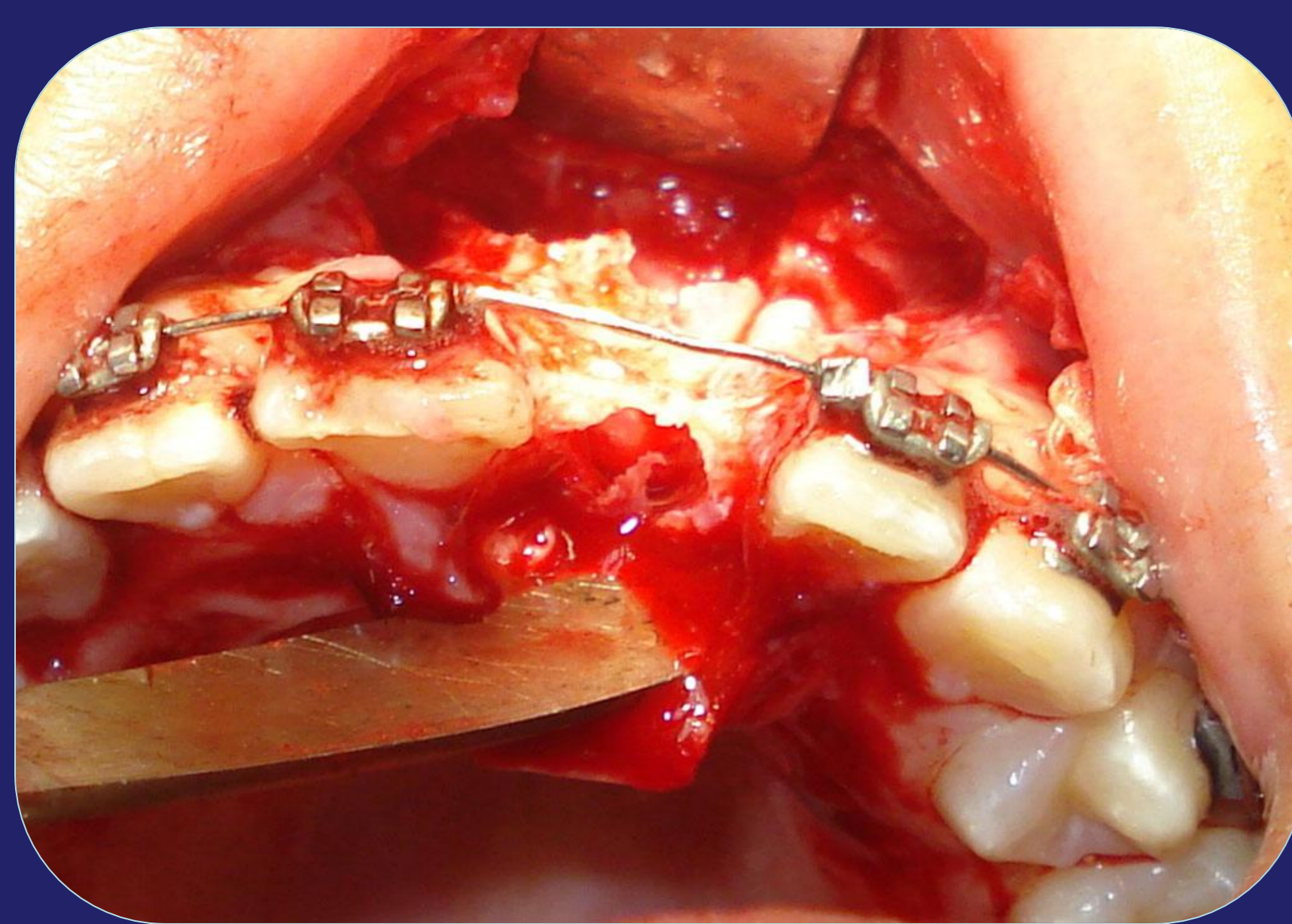


Fig. 8: The incisor was removed and relocated in its alveolus

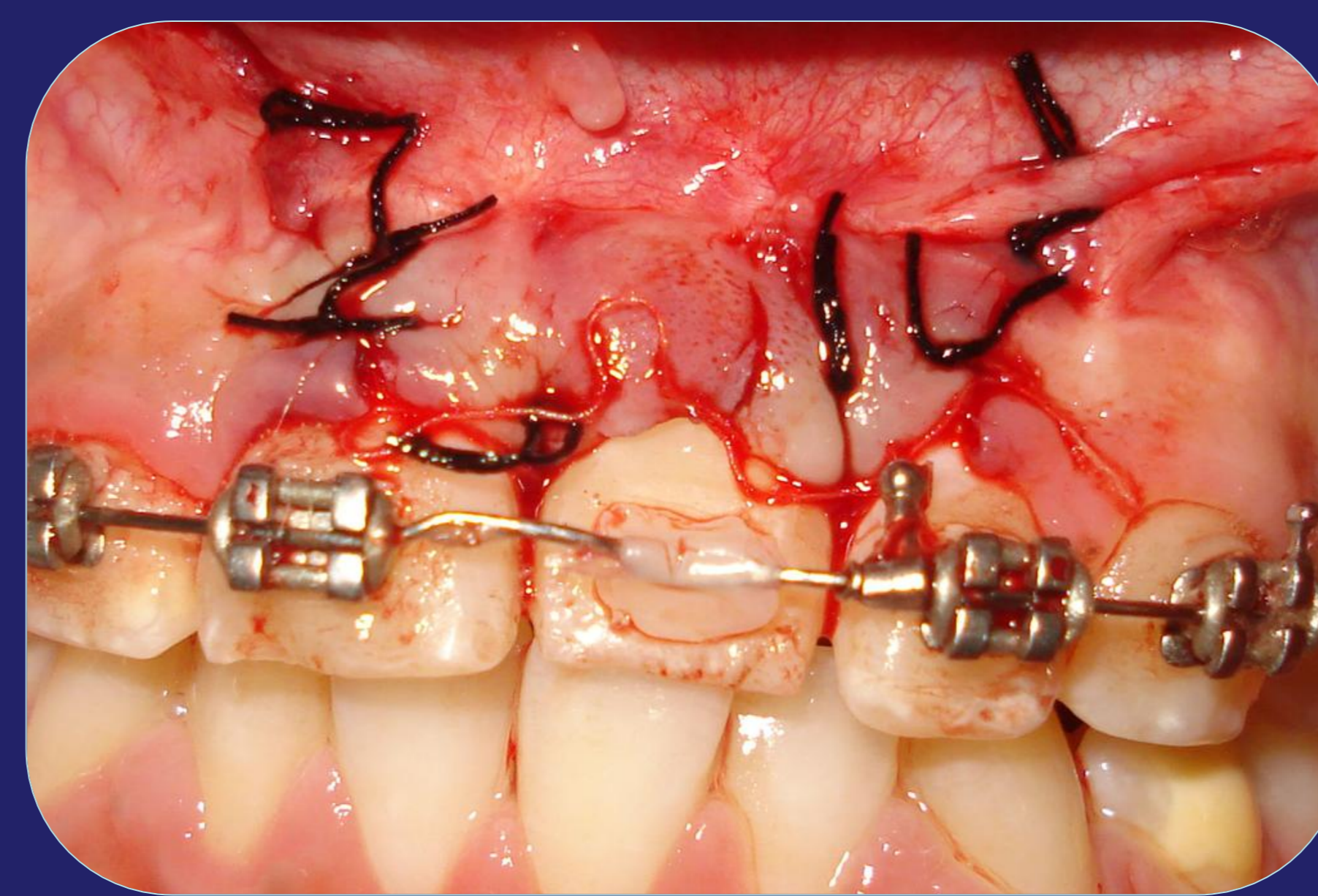


Fig. 9: Immediate postoperative image



Fig. 10: Immediate post operative radiography



Fig. 11: Six months post operative radiography

Currently, the patient has no discomfort or other symptoms and the incisive is not mobile. The radiography shows moderate to severe radicular resorption and bone formation around the reimplanted incisor.



Fig. 12: Extraoral view, one year after the surgery.



Fig. 13: Intraoral view, one year after the surgery

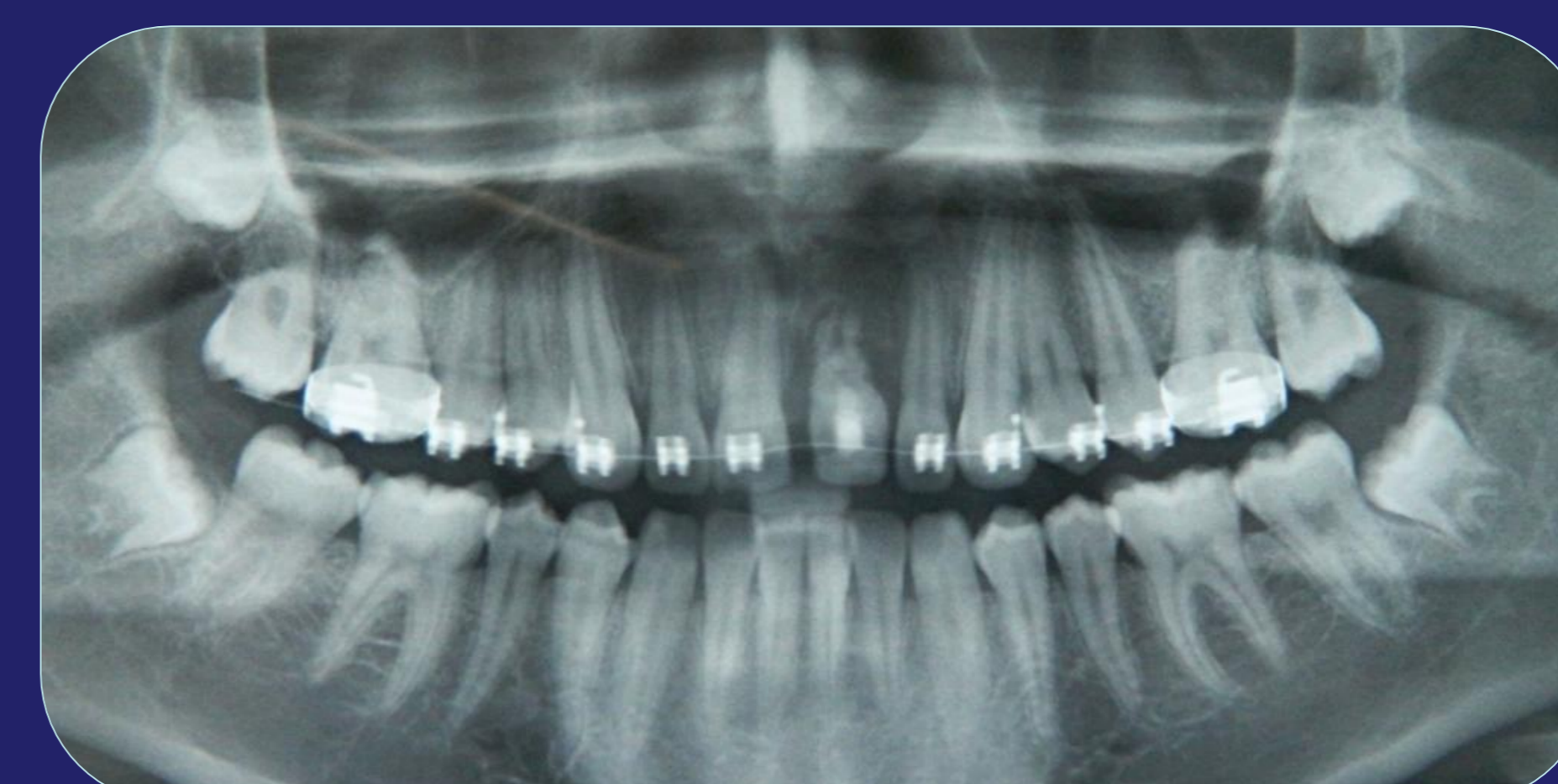


Fig. 14: Orthopantomography, one year after the surgery.



Fig. 15: Reimplanted incisor, one year after the surgery.

Comments

Impaction of permanent incisors is not a frequent occurrence in dental practice, but because of the importance of these teeth in facial esthetics and occlusion development, an early and sequenced management, performed by an interdisciplinary team, is essential for a successful treatment.

In this case, the reimplanted incisor permitted bone formation and will maintain the bone height for a possible future implant, when the maxilla is fully developed.