Conserving space by autologous transplantation of O.D 48 to dental organ space 46: A case report

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ABSTRACT
Autologous transplantation is a radical, conservative and rehabilitative surgical procedure performed in the face of the loss of a dental organ. It consists of extracting a dental organ from its socket and reimplanting it in that of another, in the same patient, who must meet characteristics such as adequate age, good systemic health, hygiene, oral health, cooperation and an adequate recipient socket to predict its success according to Vinitzky Brener I. et al..

Keywords: Rehabilitation, Dental organ, Alveolus.

1 INTRODUCTION

Autologous transplantation is a radical, conservative and rehabilitative surgical procedure performed in the face of the loss of a dental organ. It consists of extracting a dental organ from its socket and reimplanting it in that of another, in the same patient, who must meet characteristics such as adequate age, good systemic health, hygiene, oral health, cooperation and an adequate recipient socket to predict its success according to Vinitzky Brener I. et al. . This procedure has the advantage of maintaining a unique sensory system, promoting the healing of the periodontal environment, which is of great value for the preservation of the complete function of the patient's stomatognathic system [1,2,3].

2 OBJECTIVE

Present autologous transplantation as an alternative for rehabilitation.

3 PRESENTATION OF THE CASE

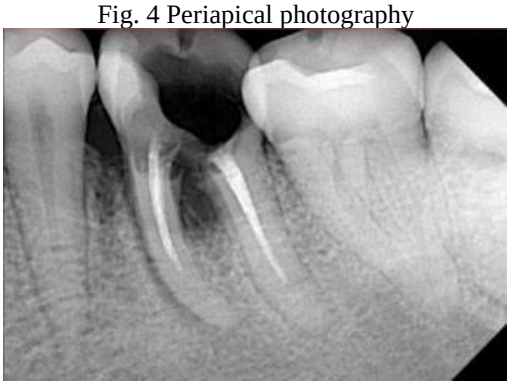
A 52-year-old female patient with a history of diabetes presented with extensive coronal destruction in the left lower first molar, which presented unrestored root canal treatment. Extraoral and intraoral photographic analysis was performed (Figs. 1, 2, and 3)

Fig.1 Front photo Fig . 2 Profile photo Fig.3 Intraoral photo graphy

1. Kang J-Y, Chang H-S, Hwang Y-C, Hwang I-N, Oh W-M, Lee B-N. Autogenous tooth transplantation for replacing a lost tooth: case reports. Restor Dent Endod [Internet]. 2013; 38(1):48–51. Available in: http://dx.doi.org/10.5395/rde.2013.38.1.48
2. Lucas-Taulé E, Llaquet M, Muñoz-Peñalver J, Somoza J, Satorres-Nieto M, Hernández-Alfaro F. Fully guided tooth autotransplantation using a multidrilling axis surgical Stent: Proof of concept. J Endod [Internet]. 2020; 46(10):1515–21. Available in: http://dx.doi.org/10.1016/j.joen.2020.06.017
3. Vinitzky-Brener I, Weihmann-Sánchez E-P, Aguilar-Rojas A-M, Peña-Anaya E. Autogenous tooth transplantation. A review of the literature and presentation of two cases. ADM Magazine [Internet]. 2016; 73(4):212-217. Available in: https://www.researchgate.net/publication/307593869_Autotrasplante_dental_Revision_de_la_literatura_y_presentacion_de_dos_casos_Autogenous_tooth_transplantation_A_review_of_the_literature_and_presentation_of_two_cases

Periapical radiography (Fig. 4) and studies. Complementary.

Fig. 4 Periapical photography



With them, the diagnosis was made and treatment alternatives were offered to the patient (Table 1).

TABLE 1

DIAGNOSIS	AETIOLOGY	TREATMENT IDEAL	TREATMENT ALTERNATIVE
Molar 36 Caries extensa	Bacterial	Extraction	Extraction and P.F.F.
Molar 38 Healthy	N/A	Extraction and reimplantation of the molar socket 36	Extraction

4 DEVELOPMENT OF THE CASE

Phase I. Surgical: The extraction of molar 36 was performed, the alveolus was made with a carbide ball drill #6 at low speed and irrigation with saline solution, then the molar 38 was extracted, taking care of the periphery Root Ameloplasty was performed on the interproximal contacts to achieve adjustment, inserted into the previously made socket, and finally splinted with suture #000 and Fuji II glass ionomer cement (Fig. 5-14).

Fig.5 Initial molar x-ray 36.

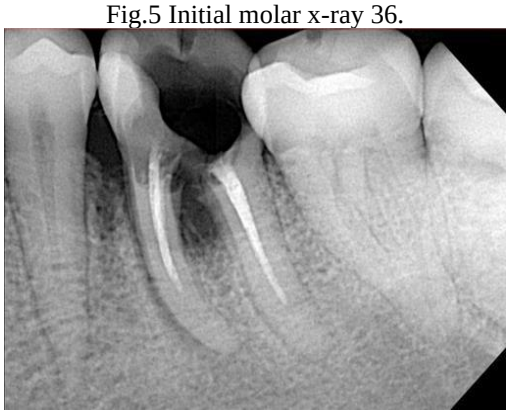


Fig.6 Molar extraction 36.

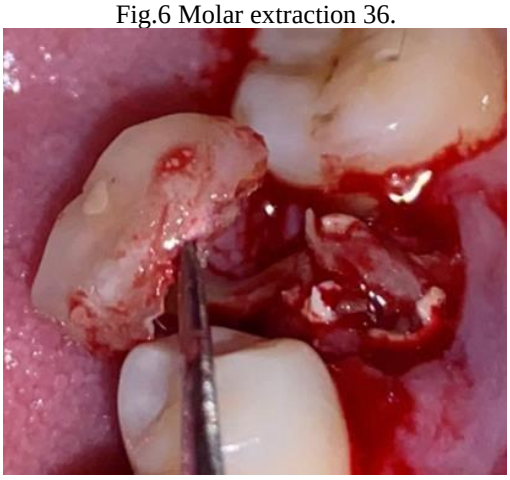


Fig.7 Empty socket of molar 36.

Fig.8 Preparation of the alveolus.

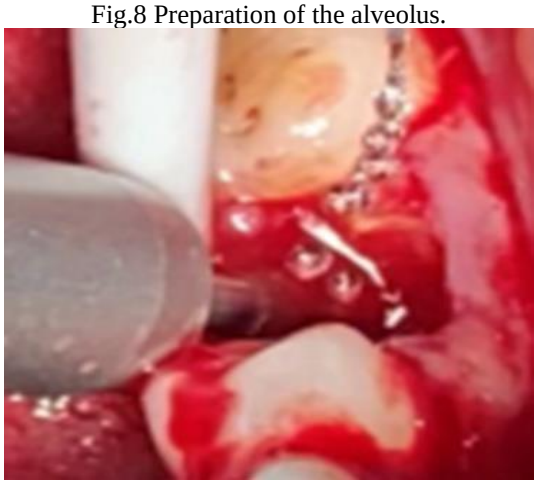


Fig.9 Initial molar x-ray

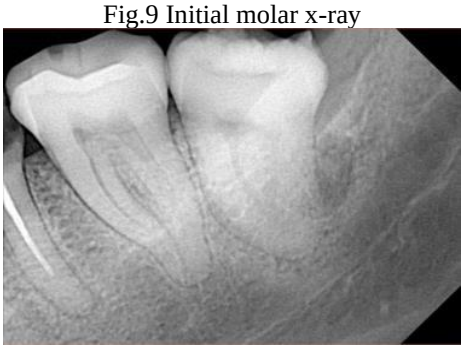


Fig.10 Molar extraction 38.

Fig.11 Empty alveolus of the molar 38.

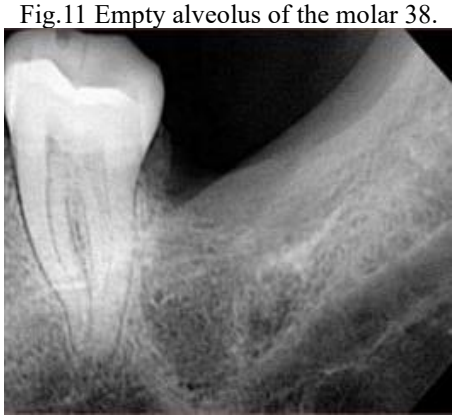
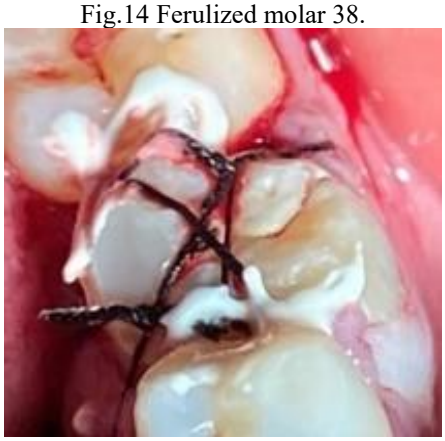


Fig.12 Ameloplasty

Fig.13 Transplanted molar 38

Fig.14 Ferulized molar 38.



Phase II. Endodontics: Four weeks after surgery, due to the complete formation of the molar roots, root canals were treated with manual instruments (K-File #20 and #25, 21 mm) and rotary instruments (ProTaper Next, X1-X4, 25 mm) (Fig. 15-17), maintaining active irrigation with 5.25% NaClO. During the procedure, the X4 instrument was separated by 5 mm (Fig. 18), and ultrasonic vibration and active irrigation were used for its successful recovery (Fig. 19-22). The filling was performed using the lateral condensation technique with ultrasound, using gutta-percha cones #25, #30 and #35, AH Plus sealant cement and temporary cement (Provisit) (Fig. 23-28). It was referred to the rehabilitator for definitive restoration.

Fig.15 Initial photograph

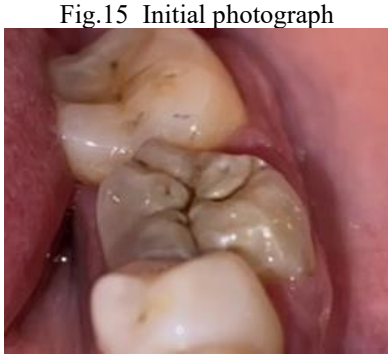


Fig.16 Initial X-ray

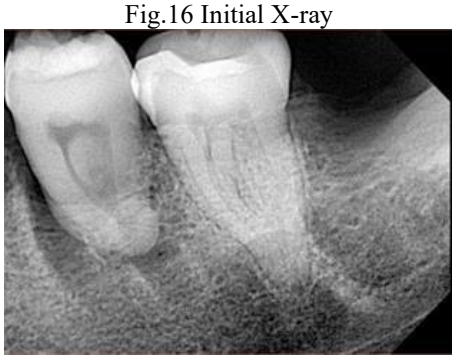


Fig.17 Conductimetry

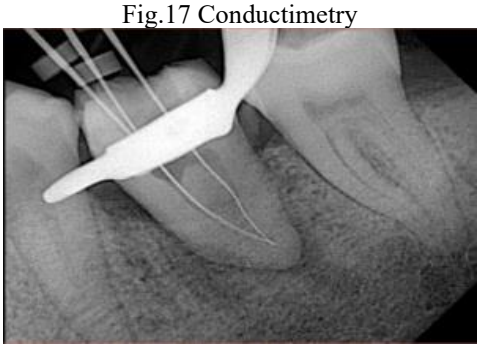


Fig.18 Fractured instrument X-ray

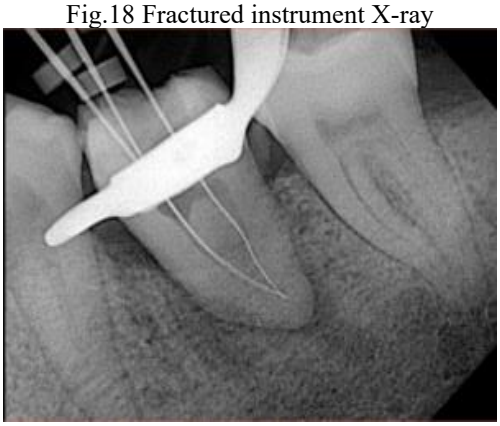


Fig. 19 Ultrasonic vibration

Fig. 20 Extracted Instrument Fraction

Fig. 21 Instrument measurement

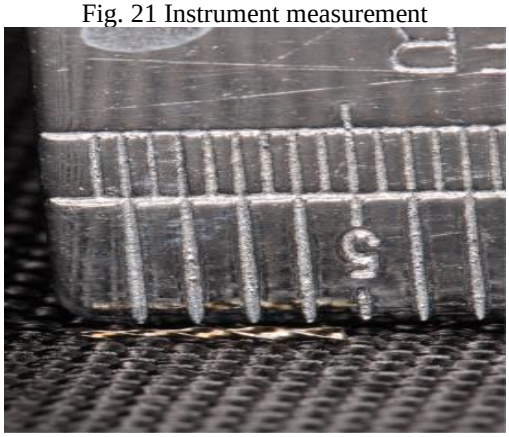


Fig. 22 X-ray

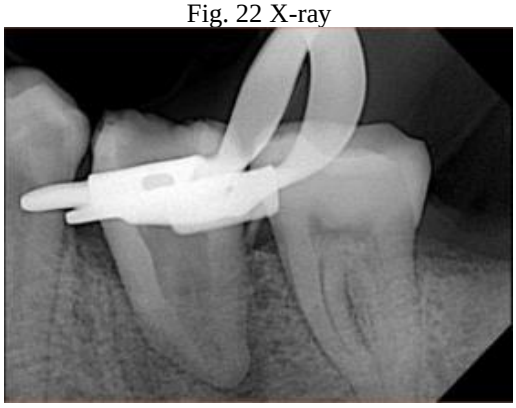


Fig. 23 Figure Post-extraction extraction from the instrument conometry.

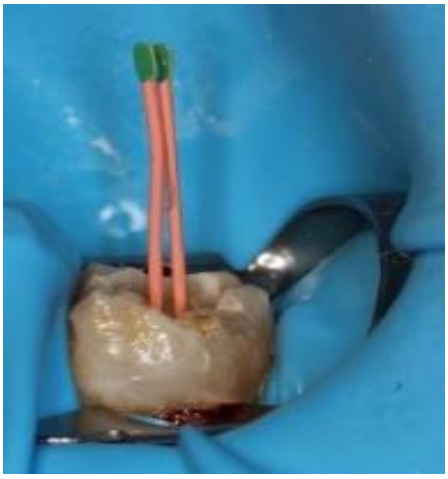


Fig.24 Conometry X-ray .

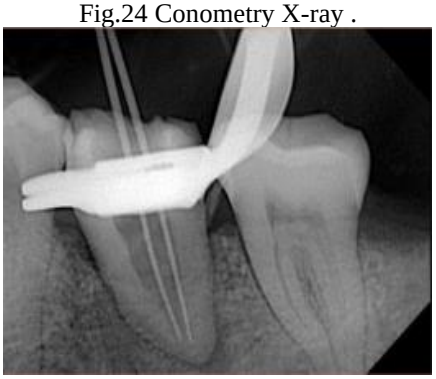


Fig.25 Condensation photograph.

Fig.26 Condensation X-ray.

Fig.27 Photograph of condensation complete.

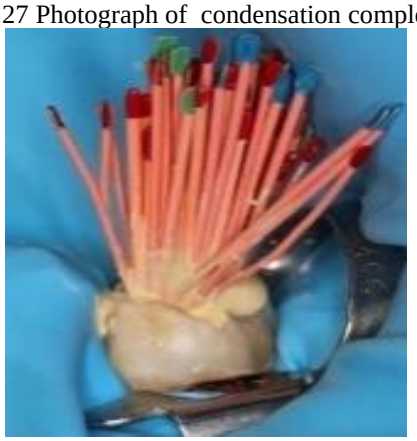


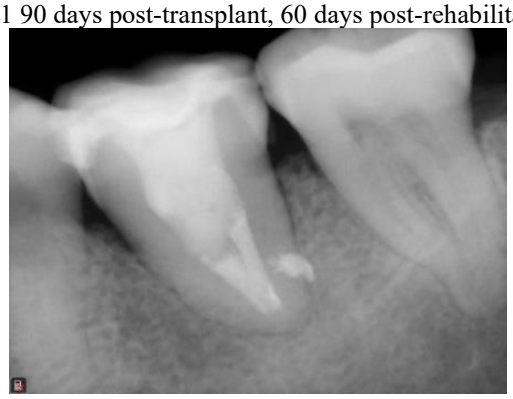
Fig.28 Final X-ray.

Phase III. Rehabilitation: The cavity was prepared to receive a Lithium Discilicate Overlay (E-Max) in shade A2 Vita, which was cemented with Relyx U200 3M self-adhesive resinous cement (Fig. 29)

Fig.29 Cemented restoration

Phase IV. Follow-up: Radiographic control at 90 days post-transplant and 30 days post-rehabilitation (Fig. 30).

Fig.31 90 days post-transplant, 60 days post-rehabilitation.



5 CONCLUSION

Autologous transplantation allowed the space in the arch to be preserved in a Conservative without affect adjacent parts, successfully returning functionality.

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