

INTRODUCTION

Maxillary incisors are commonly affected by dental trauma, with dental crowns being frequently damaged. The difficulty of restoring these teeth is dependent upon the type of fracture, Dean's classification, occlusion, and prognosis. Oblique fractures are more difficult to treat than horizontal fractures. Patients often desire immediate esthetic recovery of their smile during the first appointment and throughout subsequent treatment. The treatment strategy depends on the lag time and esthetic requirements. It may also include utilizing the fractured portion as a temporary or permanent crown, providing a definitive crown after orthodontic extrusion, crown lengthening, or considering extraction of the residual tooth followed by immediate or delayed implant placement.

MEDICAL HISTORY

MedHx: Denies
Hosp/Surg: Denies
Medication: Denies
Allergies: Seasonal
SocialHx: Denies

DENTAL HISTORY

Last dental visit: January 2020
Reason for dental visit: Fractured crown due to caries lesion tooth #9
Oral Habits: Tongue thrusting
TMJ: No sounds nor deviations
Problems eating: Difficulty biting and chewing foods

TREATMENT

Option A:

- Immediate extraction of tooth #9
- Remove carious lesion on crown of tooth #9 and splint to teeth #8 & #11 (esthetic reasons)
- CBCT
- Scaling and Root Planning of LR & LL quadrants
- Extraction of remaining maxillary teeth & root tip in area of tooth #17
- Bilateral sinus lift, bone graft & alveoloplasty (if needed) of maxillary arch
- Placement of 4-6 implants on maxillary arch & area of tooth #18
- Maxillary complete upper denture supported by implants
- Fixed implant crown on tooth #18

Option B:

- Scaling and Root Planning of LR & LL quadrants
- Extraction of remaining maxillary teeth & root tip in area of tooth #17
- Maxillary complete upper immediate denture & mandibular partial denture

EVALUATION



Extraoral: Patient presents with an asymmetrical face, convex profile, acute nasolabial angle, incompetent lips, non-palpable lymph nodes, normal salivary glands and no swelling was observed. Patient has a guarded and deviated smile.

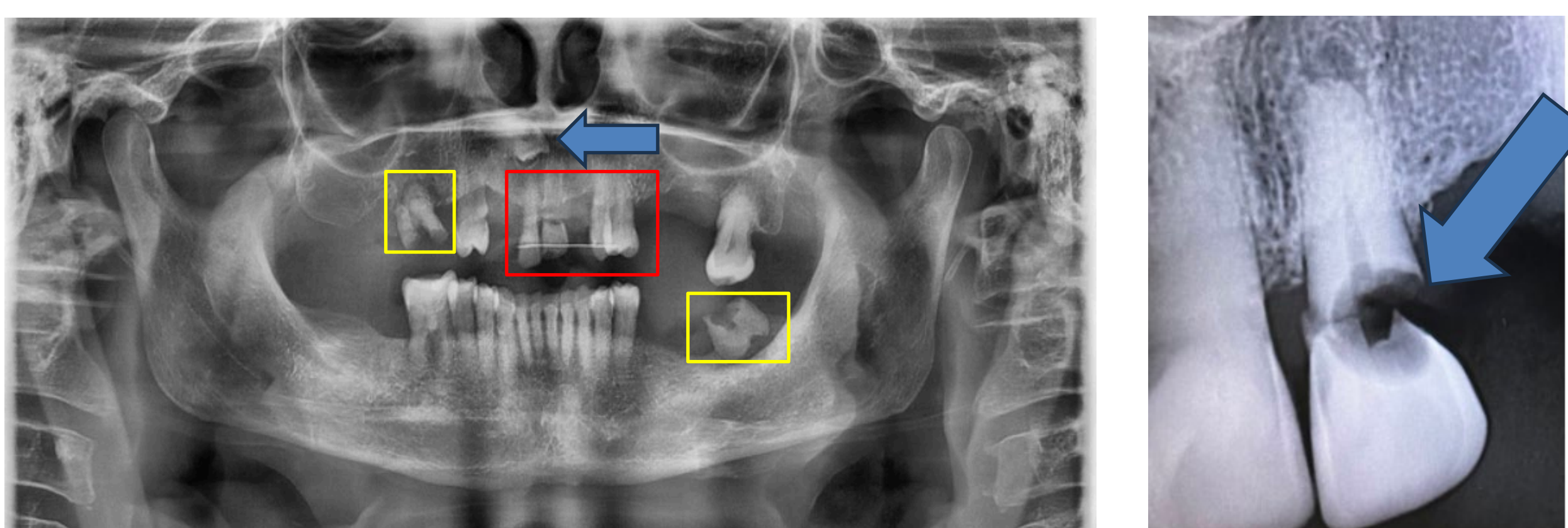
Intraoral: Oral mucosa presents with a reddish pink color and thick gingival biotype. Mucosa appears moist and smooth. Generalized plaque and calculus present on facial and lingual aspects of the teeth. Coronal fracture of tooth #9 due to caries and midline is deviated to the left side.



Maxillary arch: Partial edentulism (missing teeth #1, #2, #4, #6, #7, #10, #13, #14 & #15) and tooth #16 is extruded. Root remnants in area of tooth #3, tooth #5 rotated distally. Carious lesions present on #8(DL) & #12(DO). "U" shape palate and well defined palatal rugae were observed.

Mandibular arch: Partial edentulism (missing teeth #18, #19, #31 & #32). Root remnants present in area of tooth #17, "U" shaped arch.

RADIOGRAPHS



IMAGES

DAY OF PROCEDURE



ONE WEEK FOLLOW UP



CONCLUSION

Root fractures can manifest through various presentations, including visible trauma to the exposed portion of the tooth, partial loss of dental hard tissue, tooth displacement, or even symptoms like increase tooth mobility. Confirming a root fracture usually requires the use of X-ray imaging. The approach to treating root fractures depends on factors such as the fracture's location and the extent within the root structure. In cases of intra-alveolar fractures, splinting and endodontic treatment of the fractured coronal segment often proves effective; however, when root fractures extend into the oral cavity, the compromised tooth is directly exposed to bacterial infiltration and subsequent inflammation, leading to eventual loss of the tooth. Timely intervention is crucial, and individuals suspected of root fractures should seek dental treatment immediately to facilitate appropriate management. Understanding the multifaceted nature of root fractures and their potential consequences underscores the significance of timely diagnosis and appropriate treatment, aiming to preserve dental health and functionality. Treatment for root fractures includes emergency stabilization, preserving pulp vitality through procedures like partial pulpotomy, and considering various non-emergency options such as fragment removal, orthodontic extrusion, surgical repositioning, root submergence, or extraction. The chosen approach depends on factors like fracture severity and patient conditions.

REFERENCES

- Emerich, K., & Gazda, E. (2010). *Review of recommendations for the management of dental trauma presented in first-aid textbooks and manuals*. Dental Traumatology, 26(3), 212–216. doi:10.1111/j.1600-9657.2010.00900.x
- American Association of Endodontists (2023). *Treatment of Traumatic Dental Injuries*. CDA Journal, 45(6), 313-319. doi: 10.1080/19424396.2017.12222463