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Case Report

A Rare Case of All 4 Permanent Canines Impacted-Radiographic Finding: Case Report

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Abstract

Impacted maxillary or mandibular canines is frequently encountered in clinical practice, but encountered the 4 canines impacted is very rare. The importance of all canines in a healthy, esthetic dentition and occlusion is very large.

Keywords: Maxillary canines; Mandibular canines; Impacted

Introduction

The canines play an important role in facial appearance, dental esthetics, arch development, and occlusion and its impaction of the maxillary canines is twice common as the mandible [1]. The maxillary canine is second only to the mandibular third molar in its frequency of impaction, with a rate that varies from 0.2 to 3.0% [2-5]. The impaction of the mandible canine is much lower than the maxillary [2]. Impacted teeth may not only interfere with esthetic aspect but as a source of an oral pathology, such as dentigerous cyst [6], so the early detection and treatment of this condition is fundamental. 2D X-ray examination, such as Panoramic has been used to locate impacted tooth, but with the appearance of the CBCT-Cone Beam Computed Tomography, this 3D examination has become the golden standard for the location and spatial position of the impacted tooth [3,4,7,8]. The treatment of the impacted canines varies from orthodontic extrusion, aligners, fixed appliance, surgical removal [2,5,9,10]. Regarding the impaction of the maxillary canines, the morphology and skeletal characteristics of the maxilla play an important role in its occurrence [3,8,11].

Case Report

Female patient, 15 years old at the time of the finding; she was referred on August of 2019 by her orthodontist to the dental imaging service for evaluation of the position and condition of the 2 maxillary and 2 mandibular canines. The patient was under orthodontic treatment using fixed appliance for 2 years, as her information. The general dentist requested a CBCT-Cone Beam Computed Tomography of the anterior maxilla and anterior mandible region. A CBCT was performed by CS 9300C (Carestream Health Dental) equipment with a Small FOV (Field of View) 5.0x8.0cm and 200μm (nanometer) of each region.

During the evaluation of the maxillary and mandible CBCT studies, we observed:

a) The tooth 13 impacted and the deciduous tooth 53 retained; the tooth 13 is mesialized and facing the buccal side of the maxilla, as shown in Figure 1.

b) The tooth 23 impacted and the deciduous tooth 63 retained; the tooth 23 is mesialized, over the apex of the tooth 22 and facing the buccal side of the maxilla; we still observed a small radiolucency surrounding its crown, as shown in Figure 2.

c) The tooth 33 impacted and the deciduous tooth 73 retained; the tooth 33 is destabilized and facing the lingual side of the mandible, as shown in Figure 3.

d) The tooth 43 impacted and the deciduous tooth 83 retained; the tooth 43 is distalized and facing the lingual side of the mandible, as shown in Figure 4.

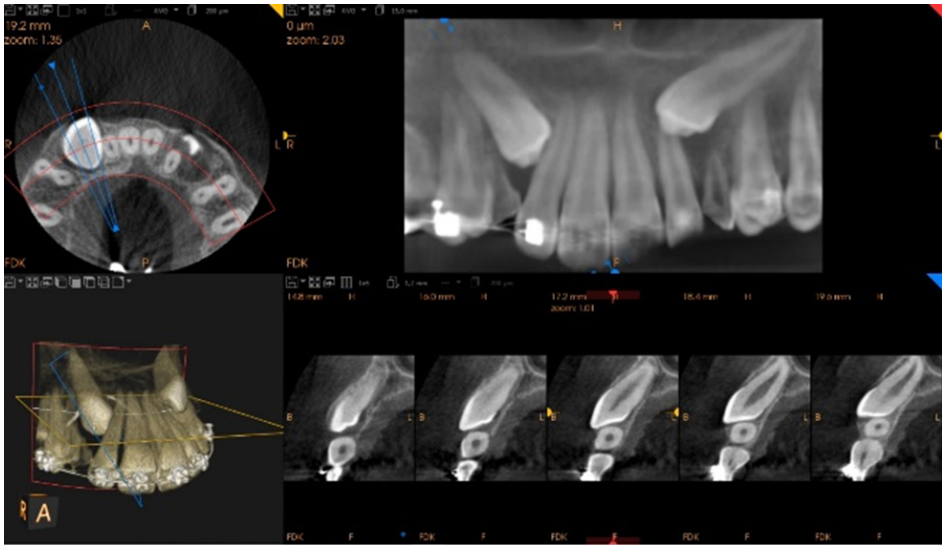

Figure 1: 13 Impacted.

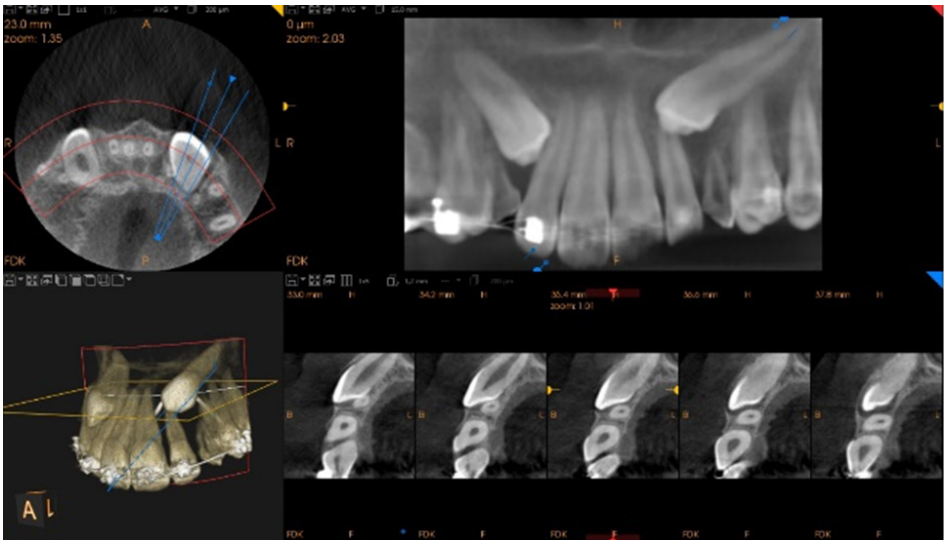

Figure 2: 23 Impacted.

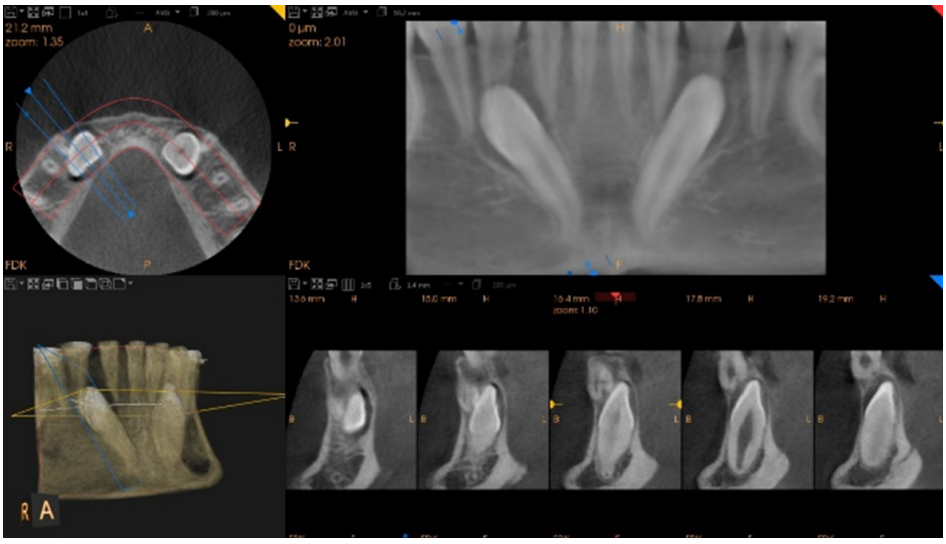

Figure 3: 43 Impacted.

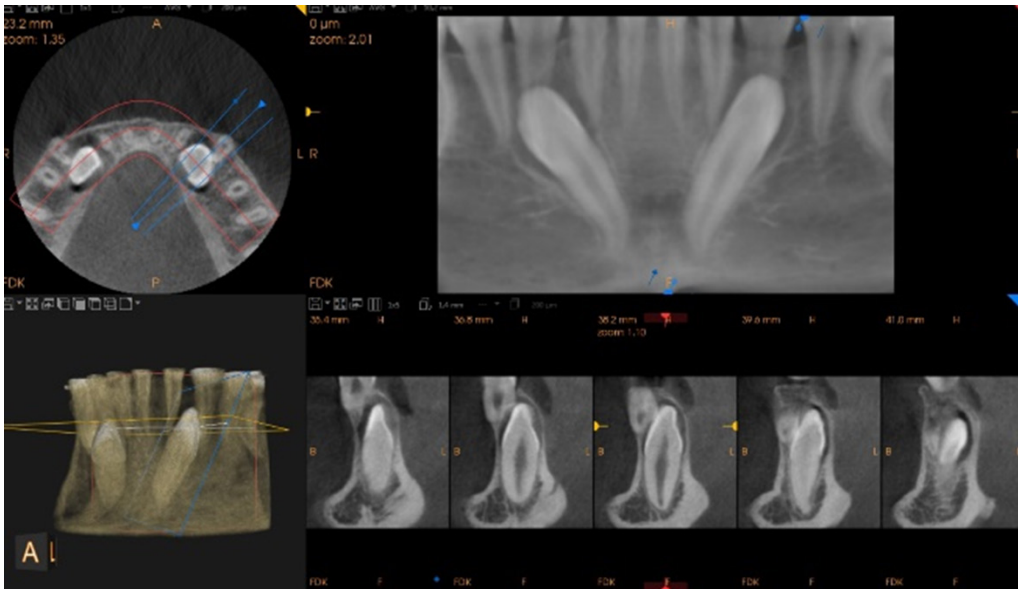

Figure 4: 33 Impacted.

After the examination, the patient was released and returned to her orthodontist for treatment follow-up and planning for the 4 impacted canines.

Discussion

Despite the impaction of both maxillary and mandibular is rare, the impaction of the canines, mainly, the maxillary is one the most common impacted tooth [1,3]. The morphology of the maxilla plays an important role for the canine impaction [8,11]. Due to the importance of the canines in the occlusion and esthetics aspect of the patient, an early detection and treatment is much important [1,7]. The CBCT-Cone Beam Computed Tomography is the golden standard imaging examination for the most accurate location and position of these condition, for both maxillary and mandibular studies [3,4,7,8]. The case reported here shows a rare case where the 4 canines, maxillary and mandibular are impacted and the importance of the CBCT examination.

Conclusion

We concluded that a careful and meticulous clinical evaluation supported by a good CBCT examination are fundamental for the correct diagnosis and the therapeutic planning and treatment for the impacted maxillary and mandibular canines.

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