Multidisciplinary Approach to a 6-year-old Patient with a Compound Odontoma

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INTRODUCTION

A multidisciplinary collaboration, accompanied by an early diagnosis, for the successful management of compound odontomas.

ABSTRACT

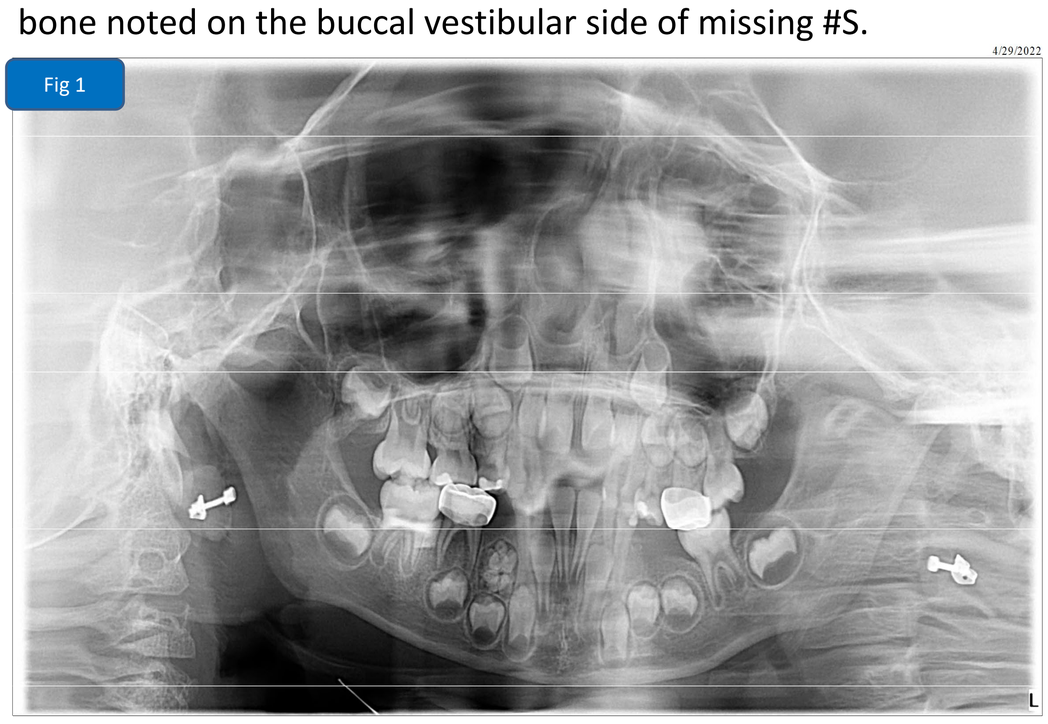
Compound Odontomas (CO) are the most common odontogenic tumor. CO are usually asymptomatic and can lead to delayed eruption or impaction of permanent teeth. CO are most common in the anterior maxilla and often go undiagnosed until the second decade of life, which presents obstacles in successful management. This case report describes an uncommon case of a CO in a 6-year-old child. Excision of the CO under IV sedation was provided along with space management with the goal of enabling appropriate eruption of the permanent teeth. Successful management of a case like this is highly dependent on the parent being a good health manager and presenting consistently to dental visits.

CASE REPORT

6-year-old female patient presented to Interfaith Dental Center with her Mother for a New Patient Exam. Mother's Chief Complaint for patient: "We are here for a check-up."

- Medical History: None reported; Medications: None reported; Allergies: NKDA
- Child Development: Within normal limits
- Dental History: Irregular Dental Visits; Oral Rehabilitation under General Anesthesia in 2020
- Home Oral Health Activity: Brushes 1x/day. Diet with high frequency of cariogenic foods.
- Examination: Generalized plaque and debris; carious lesions noted throughout dentition. Missing #S (Mother is unsure as to whether tooth never erupted or if tooth was extracted. Slight expansion of the bone noted on the buccal vestibular side of missing #S.

Fig 1



(Fig 1)**: Panoramic radiograph:** Collection of multiple tooth-like structures with a well-circumscribed radiolucent rim located mesial to the roots of the right primary mandibular second molar. Note: dental care presented on image was provided previously in 2020.

DIFFERENTIAL DIAGNOSES

1. Compound Odontoma
2. Supernumerary Tooth
3. Complex Odontoma
4. Cemento-ossifying fibroma
5. Ameloblastic Fibro-odontoma

SOCIAL DETERMINANTS OF HEALTH

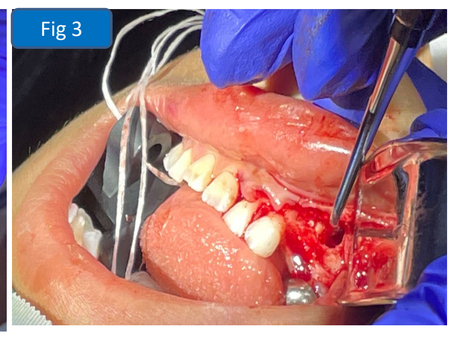
There are two predictable outcomes of Social Determinants of Health: poor health management at home and non-compliance to dental visits. After the recall visit, two visits were scheduled to confirm the results of oral health education. The results showed the parent has become a better home health manager (the patient is brushing 2x/day, has eliminated cariogenic substances from daily diet), and has been compliant for every visit.

TREATMENT

Fig 2

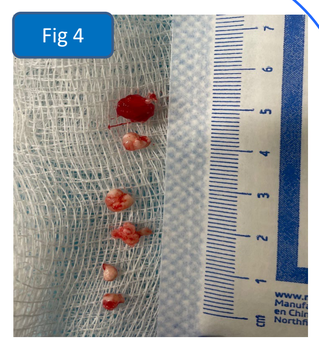
(Fig 2): Sulcular incision with distal vertical release was completed with a 15 surgical blade. Full Thickness mucoperiosteal Flap raised. Bone was removed with high-speed surgical handpiece distal to tooth #R to expose lesion.

Fig 3



(Fig 3): Tooth-like structures and follicular sac were enucleated with elevators without complication. Wound was curetted, socket thoroughly irrigated with saline. The flap was closed with 3-0 chromic gut and hemostasis was achieved.

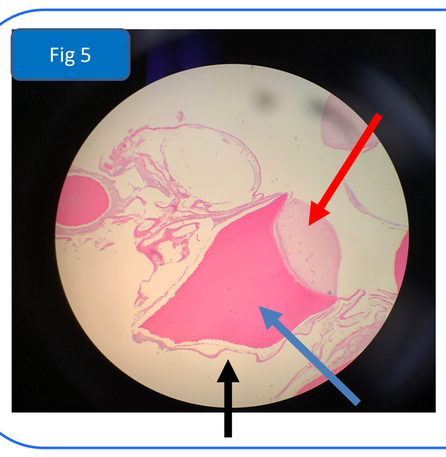
Fig 4



(Fig 4): Six mineralized structures were removed from the interior of the lesion and sent for biopsy

HISTOPATHOLOGY

Fig 5



(Fig 5): Histology results of lesion showing final diagnosis of compound odontoma.

Black Arrow: Enamel Matrix
Blue arrow: Mineralized Dentin
Red Arrow: Dental Pulp

POST-OP AND SPACE MANAGEMENT

Fig 6

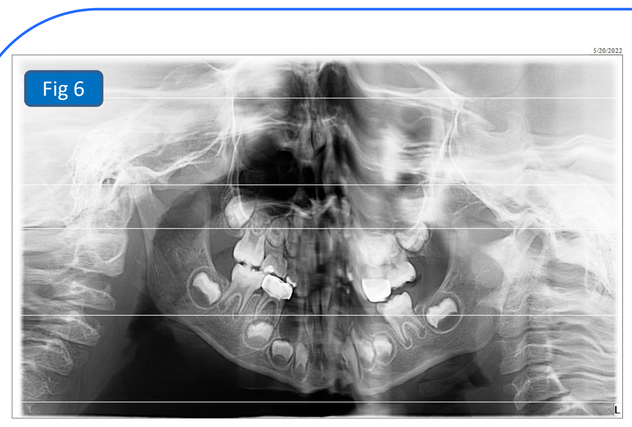


Fig 7

Fig 8

(Fig 6): 3-week post-op panoramic image showing radiolucent area showing excision of entire compound odontoma. Permanent successor shows that roots have just started forming.

(Fig 7): 3-month follow-up periapical radiograph showing bone formation in area of excised compound odontoma.

(Fig 8): Customized lower lingual holding arch for space maintenance with a modified design as to not impede eruption of the permanent lateral incisors

DISCUSSION

In this pediatric case, the odontoma was found in the mandibular posterior region which is not common. Due to the timely diagnosis and excision of the odontoma while the permanent tooth has not completed root development, it has a greater chance of normal path of eruption. A significant component to the quality of the outcome of this child's care was the change in the parent's oral health supervision of the child at home and the parent's compliance with dental visits.

CONCLUSION

Odontomas are common and timely diagnosis & management of odontomas can prevent impaction/delayed eruption of permanent teeth. Panoramic images for developmental assessment during the mixed dentition are vital to the diagnosis of odontogenic tumors such as CO. Consultation with oral surgery and oral pathology are significant to successful management of CO. The parent's commitment to her role

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