



Atypical presentation of dens invaginatus associated soft tissue infection in 9-year-old male

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BACKGROUND

Dens invaginatus results from the invagination of the enamel organ into the dental papilla.¹ The condition, also known as dens in dente, occurs in the cap stage of tooth development before calcification of dental hard tissues.^{1,2} As dental hard tissues calcify, a small tooth is formed in the future pulp chamber from the invaginated enamel organ.^{1,2} Explanations for why this process occurs range from genetic factors, external forces, and hyper/hypo-proliferation of tooth germ layers.^{2,3} Teeth with dens invaginatus are at higher risk of experiencing dental caries that contaminate the pulpal tissue leading to soft tissue infections.^{2,3} Soft tissue infections are mainly seen in the periapical area of the affected tooth with abscesses occasionally forming on the associated buccal gingiva.^{2,3}

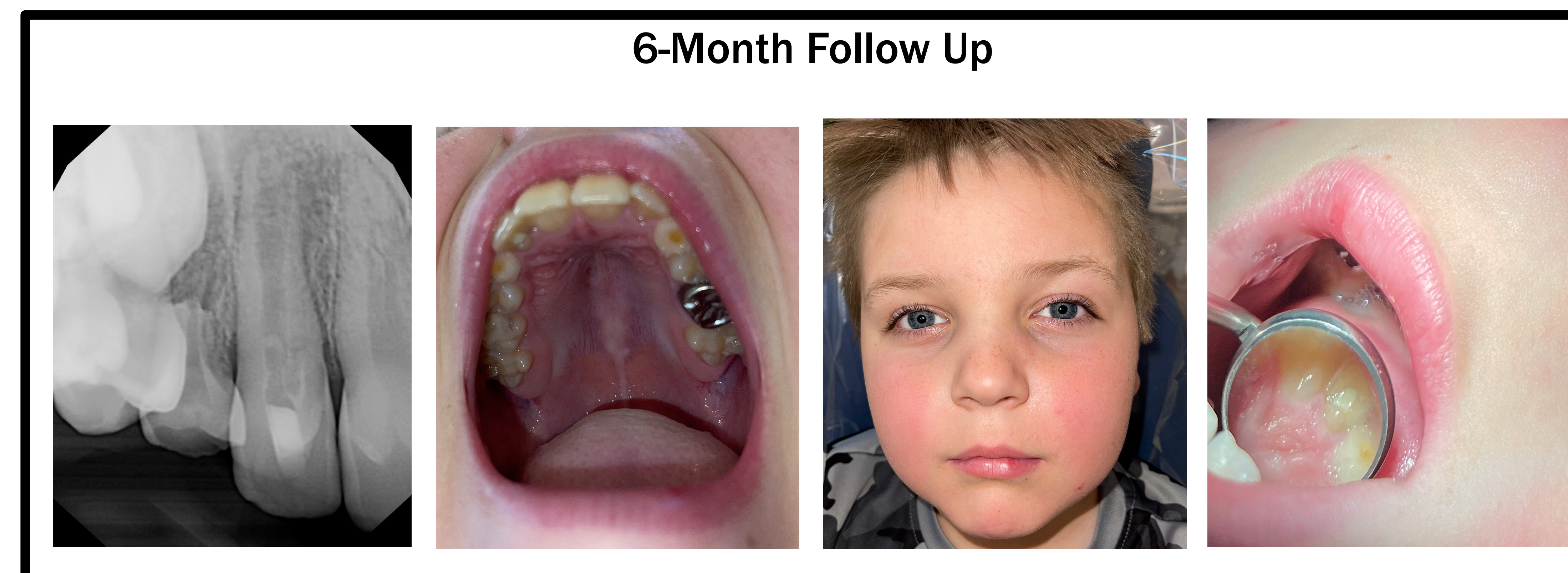
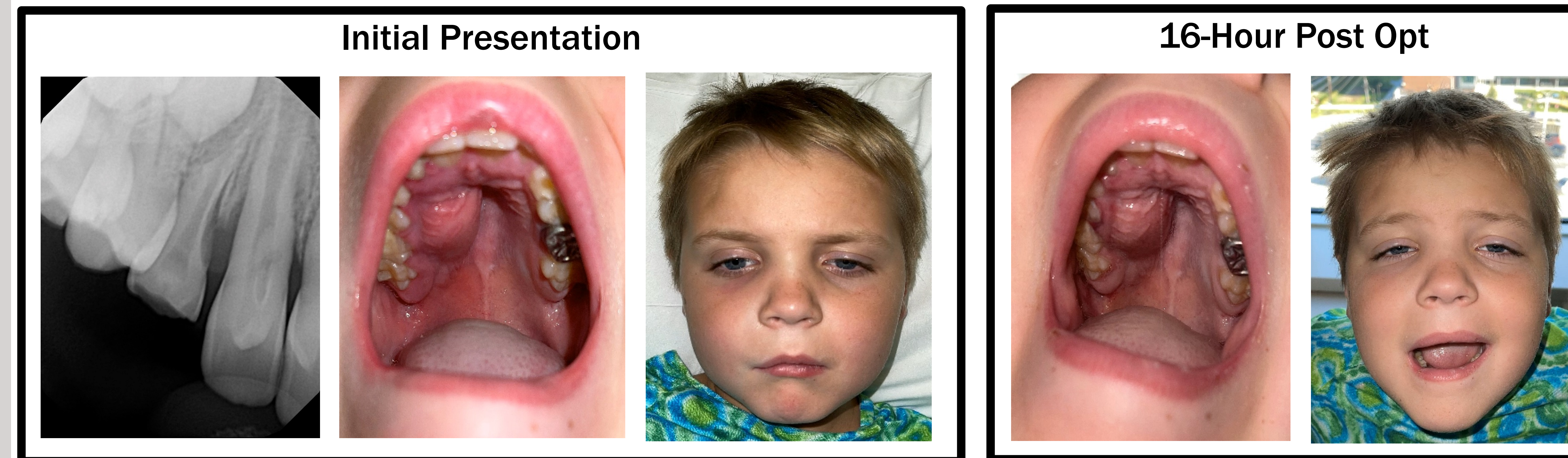
CLINICAL PRESENTATION

A 9-year-old male presented to Riley Children’s Hospital Emergency Department for evaluation due to severe palatal swelling with associated facial cellulitis. Health history was essentially negative, with no trauma related causes for swelling. Patient was transferred to inpatient care due to swelling, pain, and need for further observation/evaluation. At around 1:00 AM, met the patient, whose parents’ chief concern was the swelling in the top right part of the patient’s mouth. Radiographs were taken to evaluate dental hard tissue in the maxillary right. Clinical photographs were taken to document the facial swelling. Oral maxillofacial surgery (OMFS) was paged for an incision and drainage (I & D) of lesion, and a sample was collected for culture. Maxillofacial CT was ordered as well to further determine the potential odontogenic cause of the considerable facial swelling.

Differential Diagnosis

- Dens Invaginatus associated with #7 with periapical and palatal soft tissue infection
- Dentigerous cyst associated with unerupted #6
- Pulpal infection associated with #B with palatal abscess
- Adenomatoid Odontogenic Tumor associated with #6

RADIOGRAPHIC INTERPRETATION AND CLINICAL PHOTOGRAPHS



* BIOPSY AND HISTOLOGICAL REPORT

- I & D Culture Positive for pan susceptible streptococcus anginosus
 - Common finding in severe odontogenic infections⁴
- Usually when the infection has spread to deep facial and neck tissues⁴
- Hospitalization is typically required to effectively treat the infection⁴
 - Pose a potentially life-threatening risk⁴

DIAGNOSIS AND TREATMENT

A diagnosis of dens invaginatus was given for tooth #7 with associated periapical and palatal soft tissue infection.

Treatment of Acute Symptoms:

- Initial incision and drainage was performed with bacterial sample cultured from drainage
- Culture report found presence of *
- Patient on IV Omnicef while in-patient at Riley
 - Dismissed w/Clindamycin
- Referral to local endodontist

Treatment of Chronic Infection:

- Patient on antibiotic for one month post-ED visit
 - Amoxicillin after Clindamycin
- #7 was accessed and pulp chamber and canal debrided
 - CaOH placed in the root canal
 - Interim restoration placed
- Aiming for apexogenesis of #7 per the endodontist
 - Apexification if apexogenesis fails

6-month Follow-Up:

- No extra or intraoral swelling present
- #7 has interim restoration sealing the dens invaginatus communication
- Radiographic interpretation of #7 showed no further root apex development since initial presentation
- Endodontist wanted to follow-up in 6 months for radiographic examination of apex of #7
- Sealant placed on #11 as dens invaginatus present radiographically as preventative measure

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