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| **Name:** |
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| 6B-2  |
| **Pathology Question:** |
| What are the consequences of ectopic eruption? |
| **Report:** |
| Ectopic eruption is a disturbance during the eruption sequence where the tooth has an altered path of eruption. A common example of an ectopic eruption is the maxillary permanent first molar erupting underneath the distal of the second primary molar. Another common example of ectopic eruption is when a canine tooth erupts mesially and affects the lateral incisor. Many studies have shown that ectopic eruptions are found more often in females than males (Female:male 2.3:1 or 3:1) (Cernochova). The etiology of ectopic eruption is unknown. The pathology is, therefore, multifactorial crediting genetics, trauma, developmental insufficiencies regarding the balance between jaw growth and the eruption rate of the teeth, and the sizes of the erupting teeth. Certain cases of ectropic eruption resolve spontaneously.The key to preventing a complicated malocclusion is early diagnosis and treatment. Failure to diagnose ectopic eruption can cause loss of arch length, inadequate space for premolars, and malocclusion. Additional complications regarding ectopic eruptions include displacement of neighboring teeth, crowding, neuralgic pain, formation of follicular cysts, ankylosis of the ectopic tooth, and internal and external resorption of the ectopic tooth and the teeth adjacent. The most common of the consequences is root resorption of the adjacent permanent teeth. Forty-eight percent of ectopic canines result in root resorption (Cernochova). Additionally, the ectopic tooth itself can become a trap for food and plaque. This greatly increases the chances of this ectopic tooth to present with caries. Root resorption can be difficult to diagnose because this pathology is typically asymptomatic and rapid. In a short duration of time, the resorption can reach the pulpal canal and reduce the crown-to-root ratio substantially. This can subsequently lead to the loss of the affected tooth. The chief goal in treating ectopic eruption is the repositioning of the ectopic tooth to its rightful location in the mouth. When root resorption is present in the patient, surgical exposure and orthodontic traction of the tooth is indicated. Orthodontic traction is the process of surgically exposing the crown of the unerupted tooth and attaching a traction chain to the tooth. This will then guide the tooth along the proper eruption pathway (Cernochova). In the case that there is too much resorption inflicted on the primary tooth, it can be extracted and a space maintainer can be placed until the eruption of the permanent tooth (Yaseen). |
| **References:** |
| Cernochova, P., Krupa, P., Isakovicova-Holla, L., Root resorption associated with ectopically erupting maxillary permanent canines: a computed tomography study, European Journal of Orthodontics, Vol 33, Issue 5, October 2011, pages 483- 491, <https://doi.org/10.1093/ejo/cjq085>DeligaSchroder, A. DDS, MS, PhD. To What Extent are Impacted Canines Associated with Root Resorption of the Adjacent Tooth? The Journal of the American Dental Association, Vol 149, issue 9, September 2018, pages 765-767, [https://doi.org/10.1016/j.adaj.2018.05.012](https://0-doi-org.libus.csd.mu.edu/10.1016/j.adaj.2018.05.012)Ericson, S., Kurol, J., Resorption of Incisors After Ectopic Eruption of Maxillary Canines: A CT Study. The Angle Orthodontist, 1 December 2000; 70 (6): 415 – 423. Doi: [**https://doi.org/10.1043/0003-3219(2000)070<0415:ROIAEE>2.0.CO;2**](https://doi.org/10.1043/0003-3219%282000%29070%3C0415%3AROIAEE%3E2.0.CO;2)Yaseen, S. M., Naik, S., & Uloopi, K. S. (2011). Ectopic eruption – a review and case report. Contemporary clinical dentistry, 2(1), 3-7. https://doi.org/10.4103/0976-237X.79289 |