

Ectopic Eruption of Permanent First Molars: A Retrospective Study

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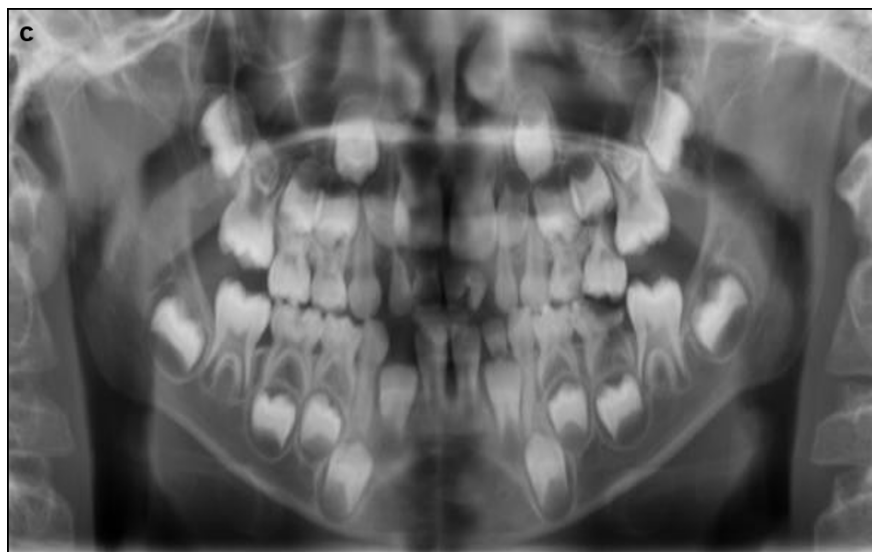
Abstract

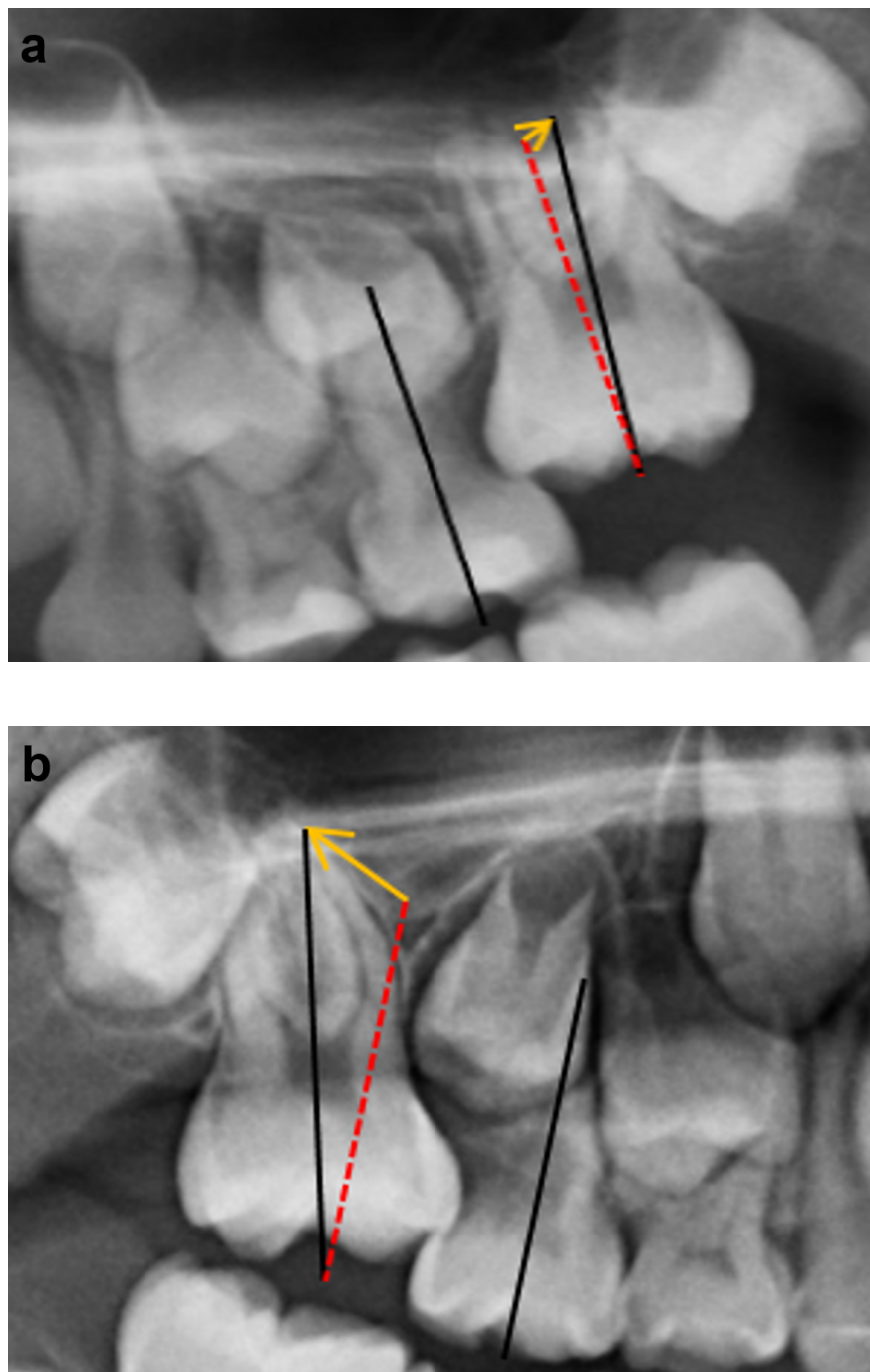
The aim of this study was to describe the occurrence, angulation and mesialization ratio of the ectopic eruption of the maxillary permanent first molar (PFM) and its correlation with the pathological resorption of maxillary primary second molar (PSM). This retrospective study was performed using the panoramic radiographs of 11,924 child patients aged 6–10 years. Ectopic eruption status is categorized as self-corrected and impacted types. To evaluate the differences between the two groups (self-corrected and impacted), the angulation of PFM, mesialization ratio of PFM, and degree of adjacent PSM root resorption were also assessed. The data were statistically analyzed using ANOVA and chi-square tests. Pearson correlation was used to analyze whether a quantitative relationship exists between PFM mesialization ratio and PSM root resorption. Ectopic eruption frequency was determined as 0.83%. The distribution of ectopic eruption according to gender shows a higher prevalence in males than females. In most of the eruption status of cases with ectopic eruption were impacted. The impacted PFMs showed more negative vertical and positive horizontal angle between the PSM and PFM. There was no significantly difference eruption status and angles. Mesialization ratio of impacted PFMs were significantly higher than self-corrected PFMs. There was significant difference between the PFM mesialization ratio and the degree of PSM root resorption. Early diagnosis and detailed imaging techniques evaluation are important to prevent premature loss of arch size.

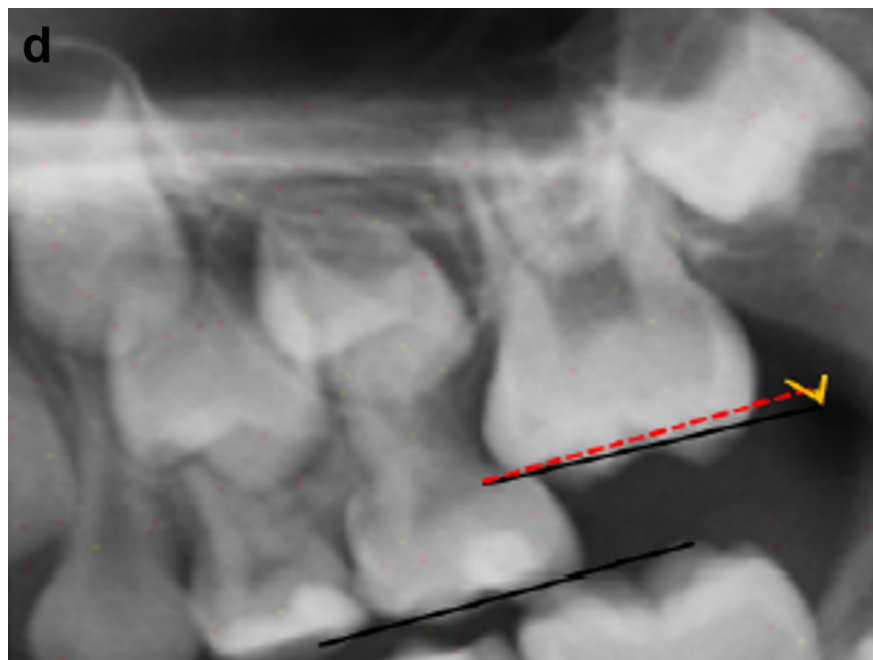
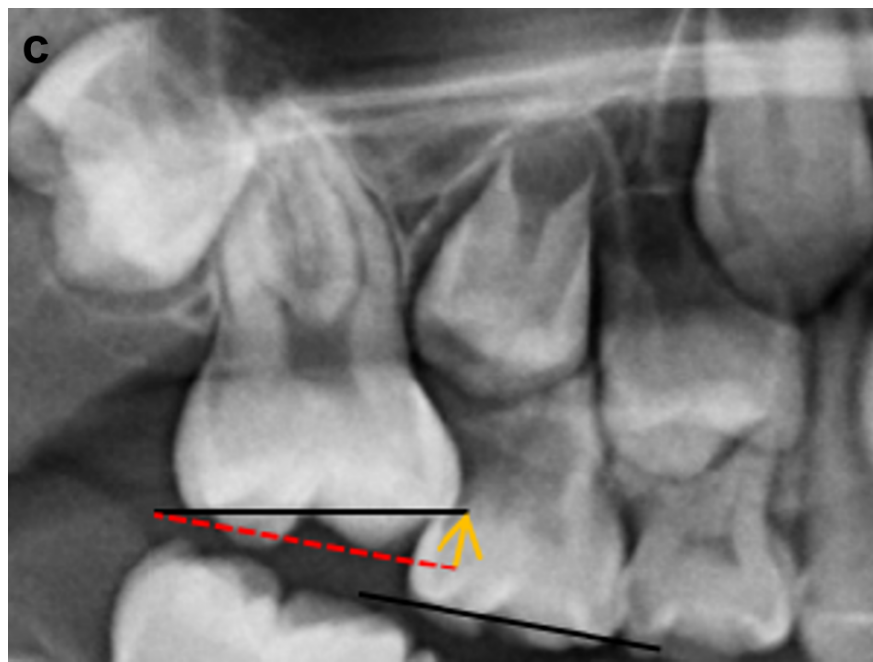
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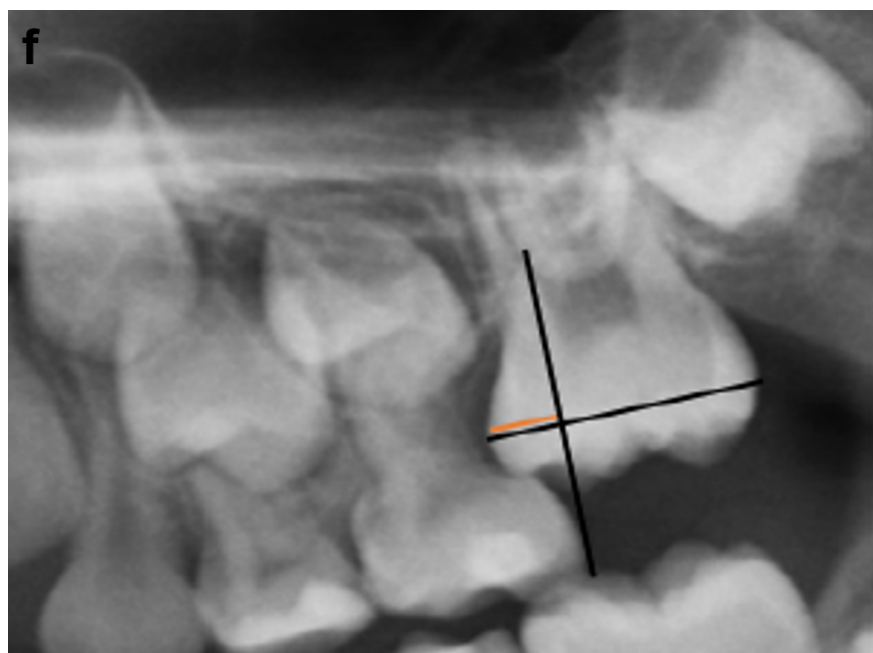
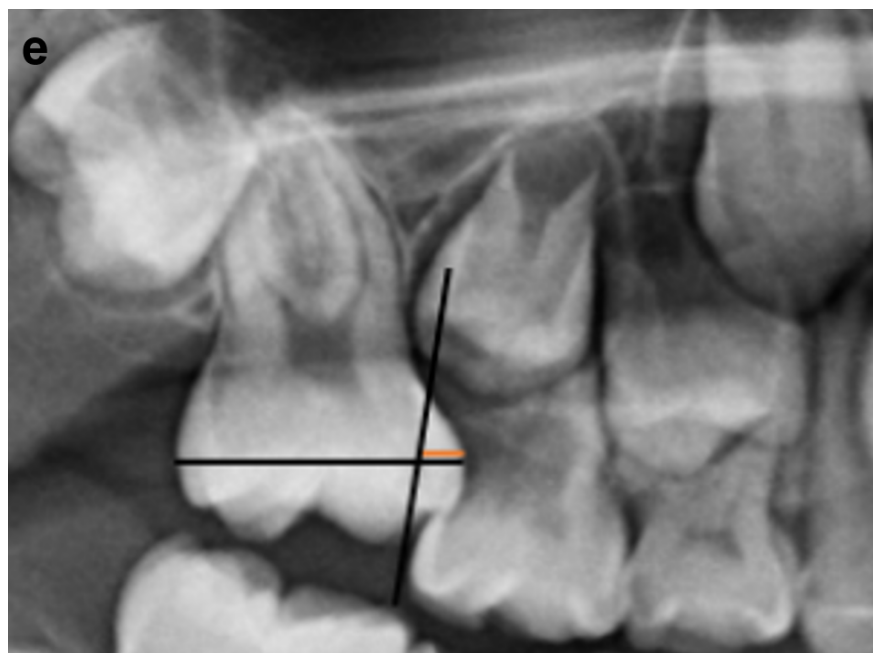
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