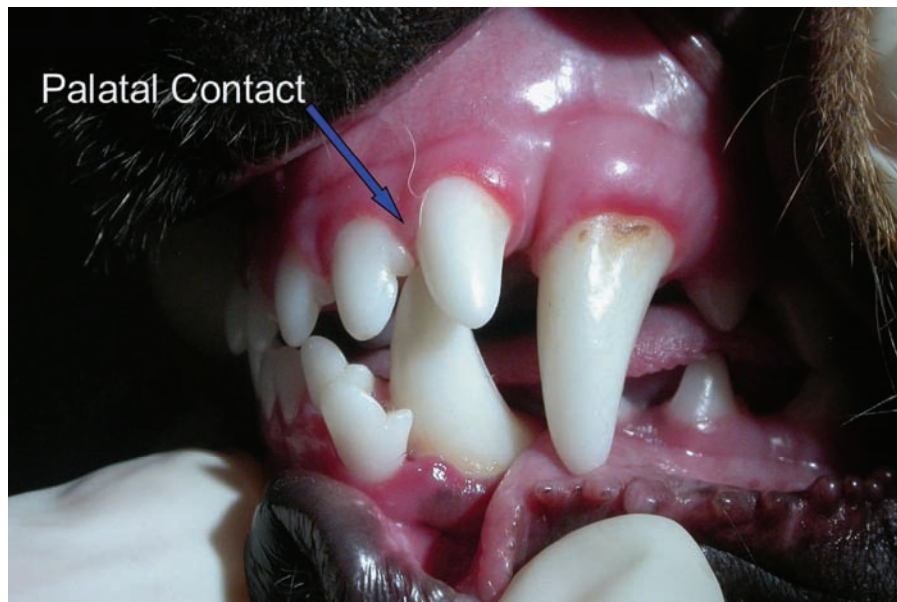


CASE OF THE MONTH (December 2011)

Signalment and History: A ten month old spayed female Jack Russell Terrier was referred for a base narrow left mandibular canine tooth that was occluding with the maxillary 2nd and 3rd incisors as well as making palatal contact. Due to the abnormal position of the canine tooth, the mandibular 3rd incisor was being forced mesially into a position more rostral than normal.



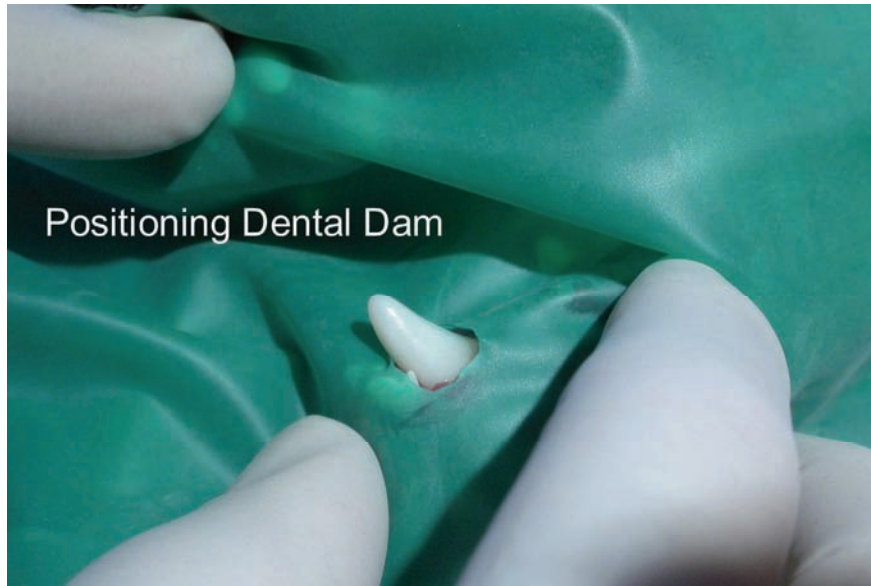
The right side of the mouth exhibited normal occlusion.



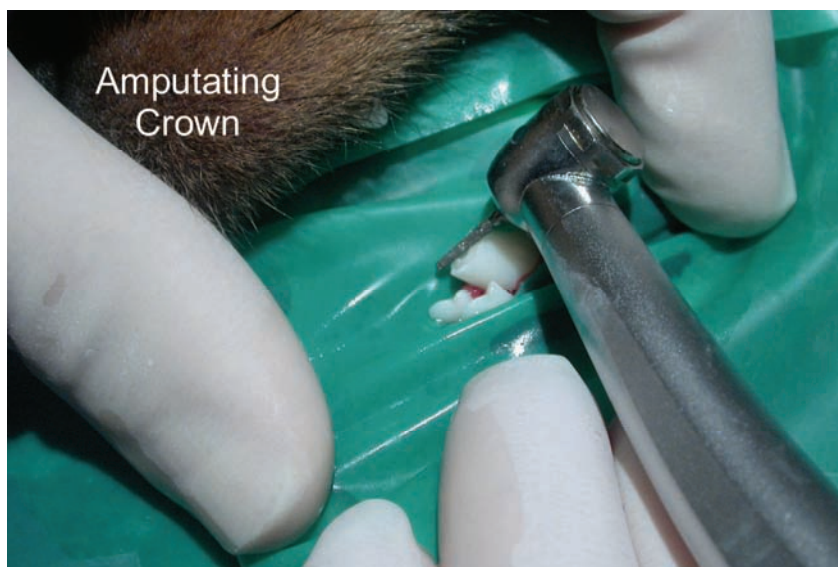
Procedures: The patient was placed under general anesthesia for a complete oral examination and intraoral radiographs. In order to alleviate the traumatic occlusion, we elected to perform a crown reduction procedure along with vital pulp therapy. This would reduce the length of the offending canine tooth and prevent further trauma. This procedure would also allow the patient to retain the function of the canine tooth and avoid the undesirable effects of a canine extraction.

A crown reduction procedure necessitates exposing the pulp chamber to the oral environment and since our goal is to maintain the vitality of this tooth, we perform the procedure under conditions that are as sterile as possible.

A latex dental dam is placed over the tooth to help reduce contamination.



A cylindrical diamond bur is used to amputate the crown of the tooth.





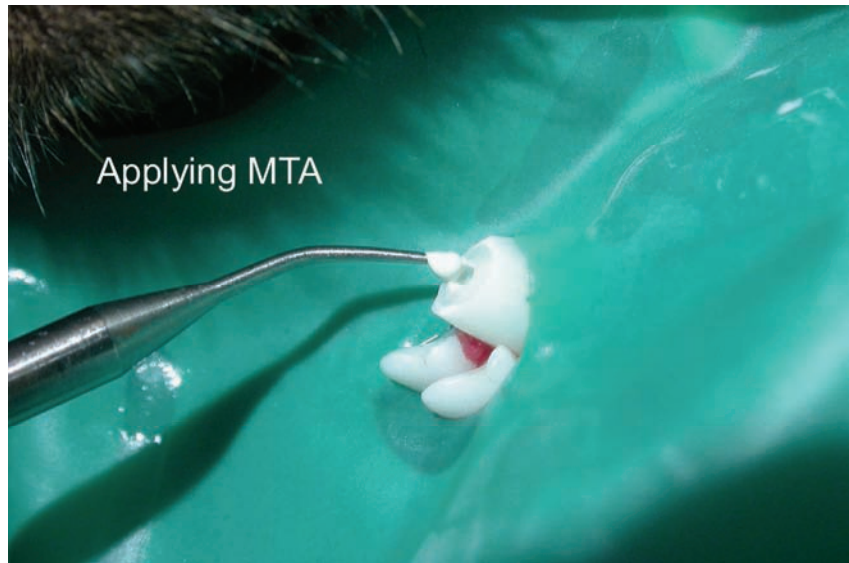
We assume that exposing the pulp in this manner will contaminate the top few millimeters of pulp, so we use a bur to remove 5-6 mm of pulp.



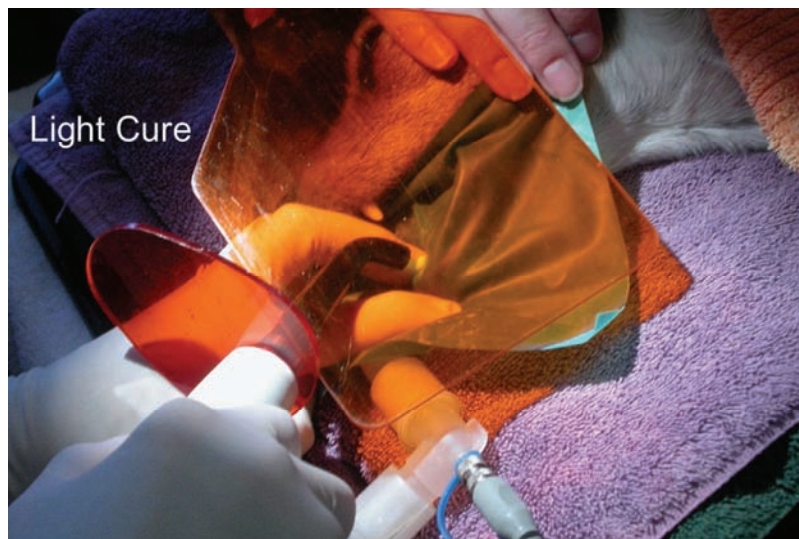
Hemorrhage is controlled with sterile paper points.



Mineral Trioxide Aggregate (MTA) is placed on top of the pulp.



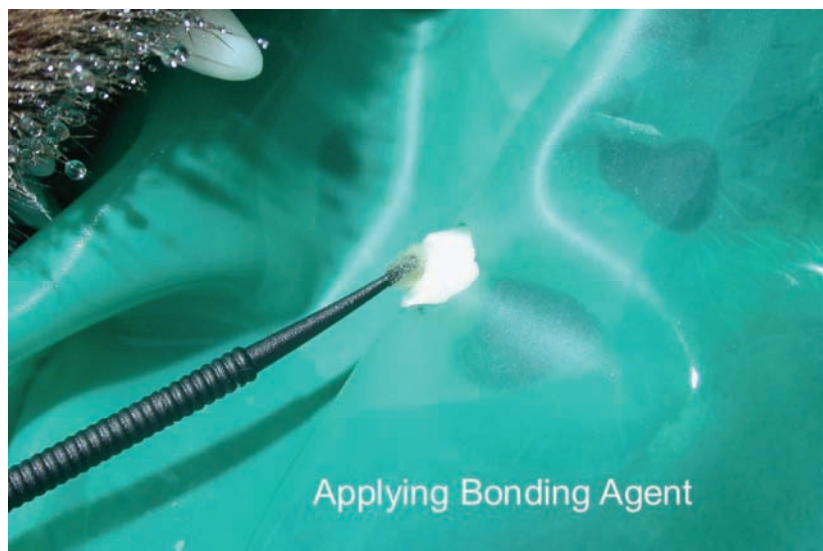
A layer of glass ionomer restorative material (Ionosit) is placed on top of the MTA and light cured.



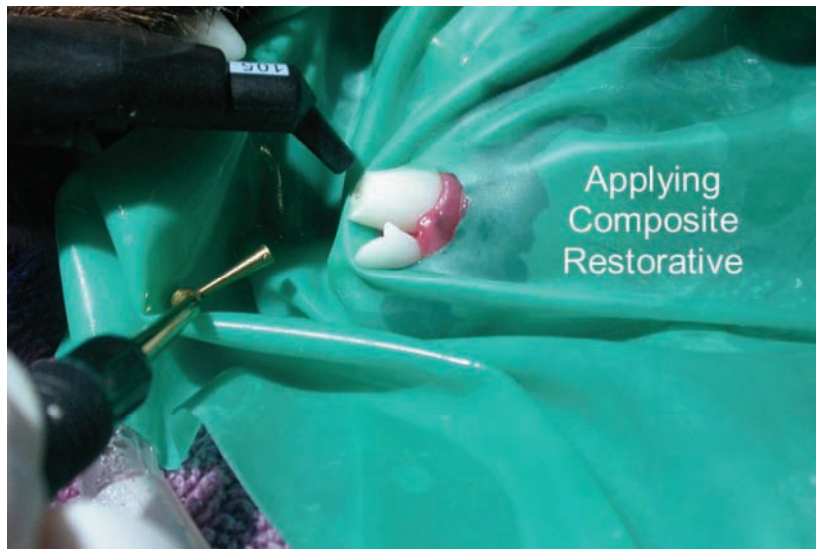
The tooth is acid etched to prepare for final restoration.



A bonding agent is then placed on the preparation and light cured.



A composite restorative material is chosen in a color shade cosmetically matching the shade of the tooth, applied to the prepared site, and light cured.



The composite restoration is then smoothed with a series of finishing disks.



An unfilled resin is applied and distributed over the smooth surface and light cured. This provides a final seal to prevent bacterial leakage into the margins of the restoration.



A final light cure completes the procedure.



Examination of the 3rd incisor with a periodontal probe demonstrated a deep pocket and tooth mobility. This tooth was extracted.



A final radiograph illustrates a successful restoration.



Discussion: A base narrow mandibular canine tooth may be corrected in several ways, depending upon its positioning. If the length of the maxilla and the length of the mandibles are normal relative to each other, I prefer to correct these orthodontically. Orthodontic treatment was not possible in this case, however, because any movement of the canine tooth away from the hard palate would be blocked by the maxillary incisors.

In this situation we are left with two options: extraction or crown amputation. Extraction is quite invasive and creates soft tissue trauma in the form of periodontal flap formation. It also requires alveolar bone removal to extirpate this firmly anchored tooth. Lastly, the patient loses the function of the tooth.

Crown amputation allows the patient to retain the function of the tooth and avoid the invasive trauma associated with extraction. Done successfully, the tooth remains alive throughout the lifetime of the patient.

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