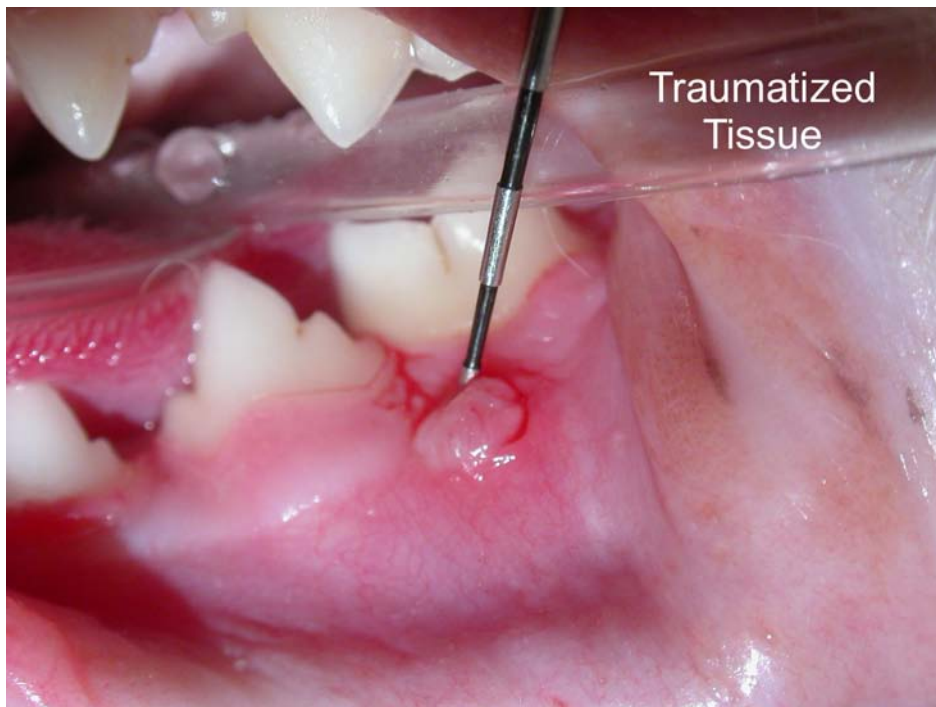


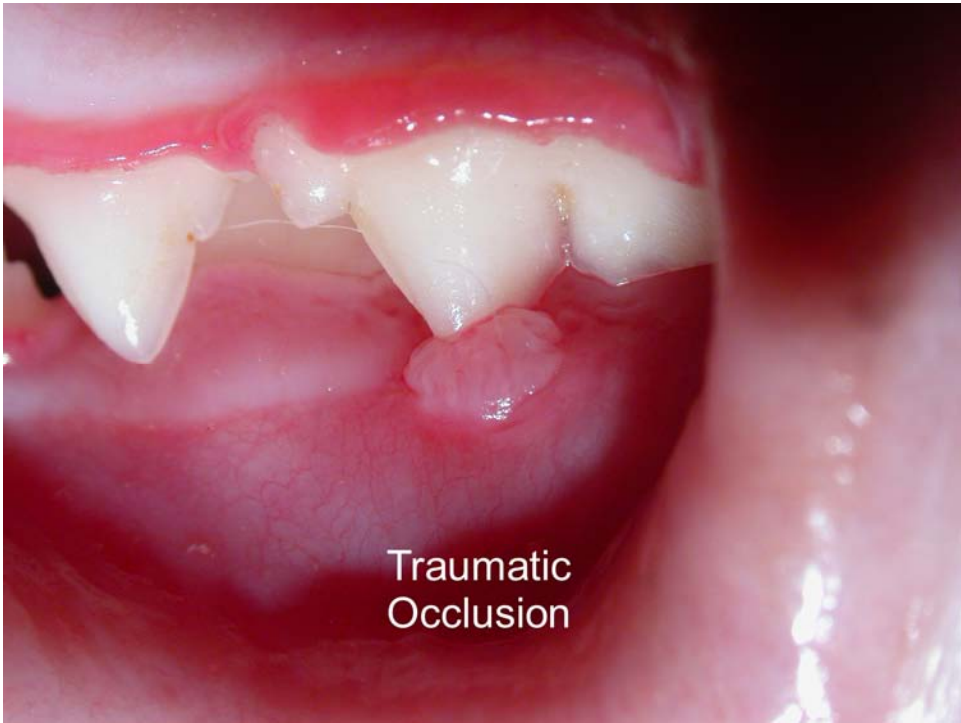
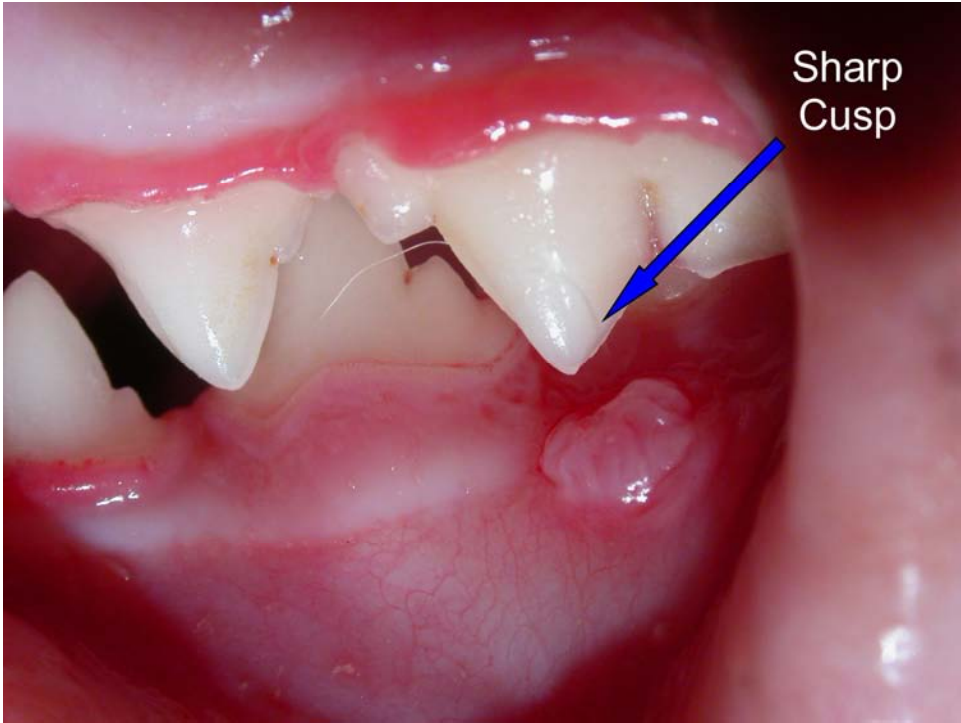
CASE OF THE MONTH

(April 2008)

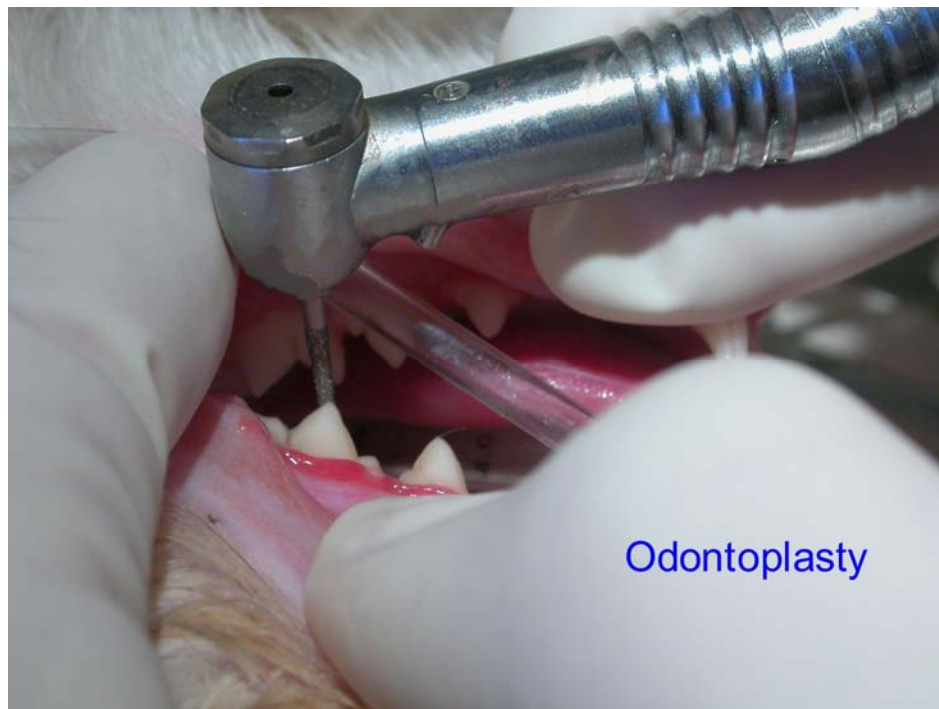
Signalment and History:

A four year old male Manx presented with a small inflamed mass of the buccal gingival tissue just below the left mandibular molar. The patient was placed under general anesthesia to facilitate a complete oral exam. Upon close examination of the occlusal relationship between the maxilla and the mandible in this area, it became apparent that this inflamed area was being traumatized by the sharp cusp of the left maxillary 4th premolar.





Procedures: We elected to perform an odontoplasty procedure to smooth the sharp cusp of the maxillary 4th premolar and eliminate the resulting trauma. We used a cylindrical medium grit diamond bur for this procedure. Next we acid etched the cusp to prepare it for bonding. Finally the bonding agent was placed and cured with a curing light. After this procedure was completed we tested the occlusion and found that the traumatic occlusion had been eliminated.





After Odontoplasty



Acid Etching





Discussion: Our goal in treating this case was to prevent further occlusal trauma. We accomplished this goal by creating a smooth, rounded shape on the cusp of the maxillary premolar. When performing this type of procedure it is important to remove the minimum amount of tooth structure necessary to achieve our goal. It is also imperative that the pulp chamber of the tooth is not compromised. Taking a preoperative intraoral radiograph is helpful in determining the proper amount of tooth structure to be removed.

When removing tooth structure the enamel layer is completely removed and the dentin is exposed. Dentin is a porous material much like a sponge. It contains 30-40,000 dentinal tubules per mm² which communicate with the pulp of the tooth. If left open to the oral environment these tubules would create a pathway for bacteria to enter the pulp and cause pulpitis, pulp necrosis, and an endodontic abscess.

To prevent this bacterial invasion, we must seal the openings of the dentinal tubules. This is where the bonding agent comes in. The acid etchant prepares the dentin for the bonding agent, which is brushed on. This liquid resin flows into the open tubules. The curing light then causes a polymerization reaction which transforms the liquid resin into solid plugs, sealing the tubules.

Occlusal evaluation is an important part of any oral examination. This particular occlusal anomaly is not uncommon in feline patients; in fact this case was the first of two that we treated in one week.

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