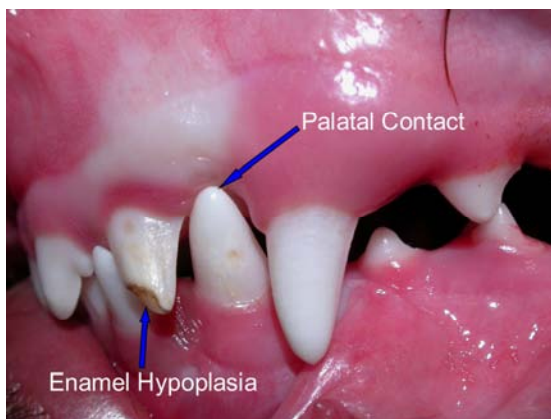


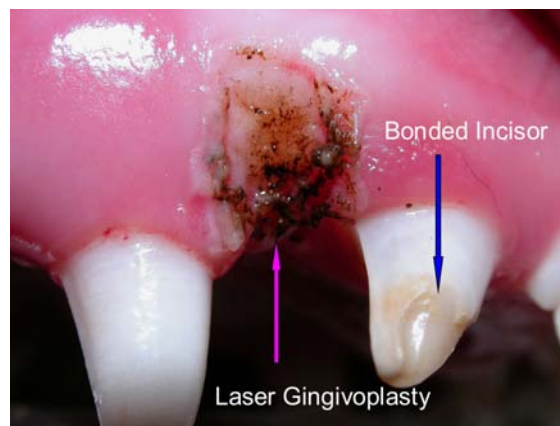
CASE OF THE MONTH (March 2007)

Signalment and History:

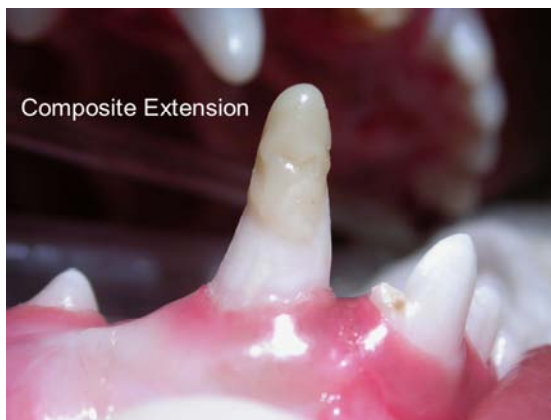
This patient was the subject of our January 2007 Case of the Month. This is a female German Wirehaired Pointer that had originally presented with base narrow deciduous canine teeth which were contacting the hard palate and causing palatal trauma. At the time we surgically extracted these mandibular deciduous canine teeth for two reasons. First was the alleviation of the palatal trauma and pain. Secondly, we had hoped that the removal of these deciduous canine teeth would allow the permanent canine teeth to erupt in a normal position without contacting the palate. We closely monitored the eruption of these teeth with a recheck examination every two weeks. Unfortunately, the permanent mandibular canines erupted in a base narrow position and they were also in contact with the hard palate. In addition to the base narrow canine malocclusion, both maxillary third incisors were exhibiting enamel hypoplasia. At this time the patient was 20 weeks of age.



Procedures: Regional nerve blocks consisting of a combination of lidocaine and bupivacaine were administered in the left and right infraorbital foramina. Intraoral radiographs were taken of the maxillary third incisors and revealed that there was no endodontic involvement associated with the enamel hypoplasia. These teeth were smoothed with a white stone in a lowspeed handpiece and a bonding procedure was performed. A CO₂ laser was used to perform a gingivoplasty in the diastema between the maxillary third incisor and the canine tooth on both sides.



A bonding agent and composite restoration material were used to create an extension of the crowns of both mandibular canine teeth, in essence, making these teeth longer than normal.



After a period of seven weeks the patient was once again placed under general anesthesia for the removal of the composite restorations. By this time both permanent mandibular canines had moved into normal occlusion and the gingivoplasty sites had healed.



Discussion: As we mentioned in the previous newsletter, this is a case of Class I malocclusion, meaning that there is no discrepancy between the length of the maxilla and the length of the mandibles. This malocclusion is a result of malpositioning of the teeth themselves.

In order to correct this condition we elected to move the teeth orthodontically, rather than treat with crown amputation or extraction. Orthodontic movement, when applicable, allows us to correct a malocclusion with a much less invasive procedure and without the risk of infection. When treating a case like this, we have the liberty of choosing from several different orthodontic procedures. This case was rather mild in that the mandibular canine teeth were contacting the hard palate on its edge, rather than making contact much further palatally. Therefore we were able to choose a technique that avoids creating an elaborate orthodontic appliance in the mouth of the patient.

The purpose of the gingivoplasty is twofold. First, removal of some of the attached gingiva creates a pathway for the eruption of the mandibular canines that was previously blocked. Secondly, the gingivoplasty creates

an angled slope of about 60 degrees, which is referred to as an “incline plane”. Every time this patient closes her mouth, the canines slide into these pathways and are slowly forced buccally or laterally. Over a period of time, these teeth are moved by a passive orthodontic force into normal occlusion.

The purpose of the composite extensions on the crowns of the mandibular canines is to give a longer reach to these teeth and ensure that their tips will be too long to become embedded in the gingival margin again.

In most similar cases we do not need to leave the composite extensions on the teeth for a seven week period; three to four weeks will usually suffice. In this instance the owner took the patient for an extended chukar hunting outing, thus the longer treatment period.

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