Case of the Month:

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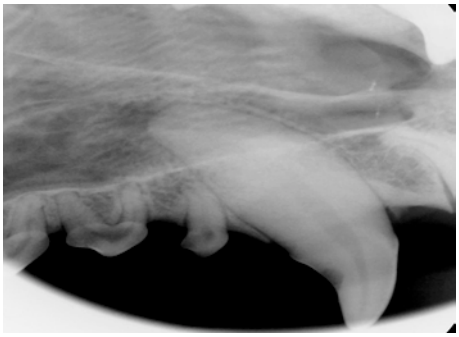
Princess is a 2 year old, FS, Siberian Husky Rescue, who was presented with a history of oral discomfort on the left side of her mouth. Her owners noticed that when they would brush her teeth, she did well for all the teeth in her mouth except her left maxillary canine tooth (204). The owners had also noticed a "black circle", which they thought may have been a cavity near the gingiva of 204.

Clinical image of the left maxillary canine tooth (204):

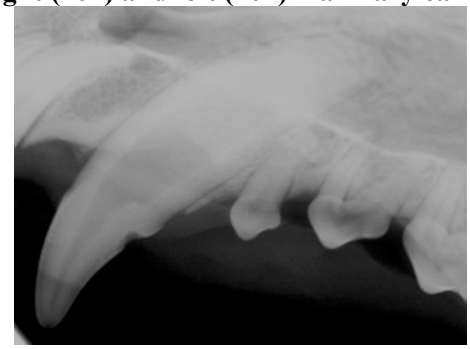
What is your next step for Diagnostics?

Anesthesia with dental radiographs and a thorough oral examination were the next steps. Upon clinical evaluation of 204: an enamel defect is present on the bucco-distal aspect of 204 which is exposing the underlying dentin that has been stained by oral contaminants.

Intraoral dental radiographs of the right (104) and left (204) maxillary canine teeth:



104



204

What is the best treatment option for this pet?

Due to the radiographic findings of a non-vital 204 (widened root canal diameter compared to 104, suggesting a halt in the development of 204). This radiograph of 204 also depicts the enamel defect (seen along the distal aspect of the crown), showing that it does enter the dentinal layer of 204 and a periapical lucency. The treatment options for 204 would be root canal therapy or surgical extraction.

In order to maintain the Left maxillary canine tooth and allow it to be functional, a root canal therapy was performed and the area of the enamel defect was debrided and a composite restoration placed.

Intraoral dental radiograph and clinical image of 204 postoperatively:

Discussion:

An enamel defect is defined as a lesion or defect in enamel. This could be caused by previous trauma to the tooth (adult tooth or at the time of the developing tooth bud) and the category of an enamel defect can also include the categories of enamel hypoplasia and enamel hypocalcification. Since this patient was a rescued dog, her history is unknown. This was the only enamel defect present on her teeth and thus, previous trauma was suspected.

Enamel is a hard calcified tissue that covers the crown of the tooth and it is the hardest substance in the body. Unfortunately, once the enamel layer has been damaged or removed—it cannot be repaired. A porous dentin layer lies beneath the enamel of the crown and the cementum of the root. Dentin is a hard calcified tissue that makes up the bulk of the tooth. The dentin layer of a tooth has multiple channels or "dentinal tubules" that communicate with the pulp chamber itself. The pulp chamber (also called the root canal) contains the blood vessels and nerves of the tooth. If there is an enamel defect or missing area of enamel, bacteria can enter these dentin tubules and travel to the pulp chamber causing pulpal necrosis and death of the tooth. This is what happened to Princess' left maxillary canine tooth. A follow up examination and dental radiograph will be performed in 12 months to monitor the success of the root canal therapy.