Cemental tears are an uncommon diagnosis which involves the fracture of cementum from the root surface. This can lead to periodontal breakdown and can mimic peri-endo lesions because the diagnosis is difficult. This clinical case report details the treatment of a necrotic tooth with periodontal destruction and an endodontic lesion that once surgically evaluated was determined to have a cemental tear. The necrotic cementum led to complete healing despite root canal therapy and apicectomy with a facial root surface debridement. Once the tooth was extracted and the remaining cemental tear on the lingual was adequately removed and treated, the tooth was replanted and attachment was regained without subsequent infection. After 6 months of clinical and radiographic evidence suggests a favorable response. This reports illustrates a successful outcome of multiple cemental tears with adequate removal.

Case Report

Dental History/Sensibility Testing
A 72 y/o patient was referred to Indiana University Graduate Endodontic Clinic from the undergraduate clinic for evaluation on 1/17/12 (Figure 1). A PA lesion was found on #25 which the patient had reported some sensitivity. The patient presented with a sinus tract in the periapical area of #25 and radiographic evidence of a periapical radiolucency. The patient could not recall a history of trauma. Testing of tooth #25 revealed no percussion sensitivity, slight palpation sensitivity, and no response to thermal testing or EPT. Tooth #25 was unrestored, but all lower incisors displayed attrition. Tooth #25 had Class 2 mobility, 6mm probing depth on MF, 2mm facial gingival recession with cervical abrasion: The diagnosis of #25 was necrosis w/ exposed root surface. Treatment options were discussed informed consent given, and the patient elected for NSRCT.

Treatment

RCT 3-15-12 and 3-5-13
- #25 was initiated. Access and canal location was determined. Cleaning and shaping done with hand and rotary instruments using 6% NaOCl. The canal was dried, CaOH placed and the tooth temporized. Two weeks later, the patient returned ax (no ST), and #25 was obturated and access filled with resin.

Emergency exam 3-29-12
- #25 was diagnosed as #25/27-28-29-30. The patient presented with a sinus tract and a facial swelling. The tooth was tender. Radiograph taken (Figure 2). Discussed treatment options and scheduled apicoectomy.

Apicoectomy 5-21-12
- The patient presents for apico #25. After FTPMF elevated, found dehiscence of bone on facial and cementum found detached from facial midroot. Apical lesion curetted and submitted for biopsy, root end resected, prepped and filled w/ Endosequence Root Repair Material (Brasseler). Loose cementum curetted, TCN placed for 1 min and rinsed with sterile saline. Emdogain applied to root/bone (crypt) and resected, prepared and filled w/ Endosequence Root Repair Material (Brasseler). Loose cementum was curetted as before, treated with 17% EDTA for 1 min and rinsed with sterile saline. The apical bevel was eliminated and retrofilling replaced. No root fracture was found. The tooth was handled with moist gauze and kept moist with Hanks Balanced Salt Solution throughout the procedure (Figure 8). The tooth was replanted into the socket and a flexible wire splint was placed.

3 month recall 8-2-12
- The patient reports swelling but no pain. Exam revealed two sinus tracts adjacent to #27 on facial attached gingiva. Radiograph shows GP point tracing back toward #25 (Figure 4). Vitality testing reveals #26 and #27 are vital. Patient placed on Kellex 500mg 1cp q12h with no change. CBCT revealed possible cemental tear on the lingual (Figure 7) and fracture could not be ruled out. Discussed treatment options and scheduled extraction-replant, with possible extraction if fracture found.

Extraction-Replant 10-2-12
- Tooth #25 was extracted, and necrotic cementum was found on L surface of root. The loose cementum was curetted ax before, treated with 1% EDTA for 1 min and rinsed with sterile saline. The apical bevel was eliminated and retrofilling replaced. No root fracture was found. The tooth was handled with moist gauze and kept moist with Hanks Balanced Salt Solution throughout the procedure (Figure 8). The tooth was replanted into the socket and a flexible wire splint was placed.

5 month recall 3-5-13
- The patient presented for recall and splint removal with no complaints. Exam revealed absence of signs of infection, probing depths within 2-3 mm (2 mm at #25MF), and no percussion or palpation sensitivity (Figure 9). Mobility was recorded at Class 2 for #25 and Class 1 for #24 and #26. The patient will be re-evaluated in 3 months.