Dental Emergencies

Case: It is 0300 am, triage sends back a waiting room patient who complains of difficulty eating. The patient's vitals are unremarkable. On exam, the patient is noted to be holding the right side of his face in pain. What are the most common etiologies of dental pain? What are the life-threatening complications?

I. **Caries/Pulpitis**: early symptoms – sensitivity to change in temperature, lying down, later – pain with minimal stimulation, air. Exam may show gross decay vs normal appearing tooth, may tap teeth with tongue depressor to localize. Significant pain w/ percussion suggests, periapical abscess.
   a. Treatment – NSAIDs vs dental block. Opioids not recommended for chronic dental caries without acute process

II. **Periapical abscess**: enamel is decalcified by bacterial acid production, which then permits bacteria to enter the pulp. There is first an inflammatory reaction and later necrosis. The root becomes purulent and an abscess forms. On exam, assess for swelling of gingiva near painful tooth. *If untreated, the infection can invade the cortex of the mandible/maxilla and spread via periosteum. If muscle attachments are invaded, may spread into fascial planes of head/neck.
   a. Treatment: I&D; if large space, penrose or iodoform drain should be left. Unclear evidence if patients should be started on antibiotics. If yes, doxycycline 100mg BID x 10 days. Warm saline rinses, referral to OMFS/DMD

III. **Infection into Fascial Planes**: examine for cellulitis or contiguous swelling in head/neck. Concerning factors: high fever, toxic appearing, trismus (secondary to irritation of pterygoid or masseter), immunocompromised

IV. **Ludwig's angina**: bilateral swelling of submandibular, submental, and sublingual spaces with elevation of tongue. Examine for "brawny induration", no fluctuance. Usually due to Streptococcus, may lead to bacteroides fragilis infection.
   a. Treatment: 4 million U Pen G q 6 hours and flagyl 1 gram loading, then 500 mg IV q 6 hr

V. **Acute Necrotizing Ulcerative Gingivitis**: Examine for gray pseudomembrane overlying interdental papillae, bleeding seen when removed. Patients complain of metallic taste and halitosis. Usually associated with smoking, local trauma, immunocompromise. *May progress to Vincent's Angina (extension to fauces and tonsils), cancrum oris (extension to lips and buccal mucosa)
   a. Treatment: warm saline rinses, analgesics to facilitate oral hygiene. Antibiotics (Pen VK 250 mg q 6 hrs or doxycycline 100 mg BID x 10 days). Refer to DMD

VI. **Dental Fractures**:
   a. Fracture of Enamel: leaves chalky-white appearance, if sharp edge can smooth w/ Emery board, otherwise referral to DMD
   b. Fracture of Dentin: yellow-ivory appearance. Adults have a higher dentin:pulp ratio than children – therefore greater risk of pulp contamination in children.

Cover exposed dentin with dry foil, metal band, or enamel bonded plastic. Next day referral

c. Pulp Fracture: Examine for spot of blood, flush of pink, may be exquisitely painful or little sensation. In children, pulpotomy is indicated. In adults, all pulp tissue and root must be removed. Next working day referral, place a piece of dry foil or temporary root canal sealant.

VII. **Dental Subluxation**: examine for any mobility, ring of blood around gingival crevice. If minimally mobile, soft diet x several days. If significantly mobile, requires stabilization by DMD.

VIII. **Dental Avulsion**: True emergency, torn periodontal ligaments. Best place for tooth, is in its socket. Highest chance of re-implantation success if within 30 minutes, 1% success lost for each additional minute. Second best transport medium – milk or Hank's Solution. Can also use saliva. Remember to check tetanus status

References / Further Reading

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