May 02, 2016

"Monday Morning Pearls of Practice by Bobby Baig"

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Periodontal and Periapical Lesions around Teeth:

Introduction:

Odontogenic infections are one of the most prevalent diseases and the primary reason patients seek out dental care throughout the world. The most common infection is the periapical abscess (25 percent), pericoronitis (11 percent) and periodontal abscess (7 percent).

Periodontal Abscess:

The periodontal abscess is the third most common dental emergency and is prevalent in patients with untreated periodontitis as well as in periodontal patients in supportive therapy. The microorganisms associated with a dental abscess are predominantly anaerobic and in the case of the periodontal abscess, they are similar to the pathogens associated with periodontal disease.

Endodontic Abscess:

In the case of the endodontic abscess, many microbiologic similarities with the periodontal abscess can be found but distinct differences do exist. The majority of odontogenic infections are anaerobic and polymicrobial, and these infections can be further characterized as chronic or acute.

Acute Infection:

1. Invading and multiplying bacteria characterize the acute infection.
2. They are associated with pain, swelling, and localized heat production as a result of the initial immunologic response to the invading organism, which is primarily a nonspecific inflammatory reaction, dominated by polymorphonuclear leukocytes.

Chronic Infection:

1. The chronic infection occurs when the microorganisms cease invasion, but are still retained within the tissues.
2. In contrast to the acute lesion, the chronic lesion has little to no symptoms and patients are commonly

unaware of the infection.
3. Chronic infection is associated with granulation tissue development and lymphocyte activity.
4. The bacteria in these lesions increasingly become resistant to phagocytosis.
5. The chronic infection often leads to further tissue destruction, commonly seen as radiographic bone loss associated at the apex of an endodontically involved tooth or around periodontally diseased teeth.
6. It is important to understand that an acute lesion can become chronic once drainage is established, and the chronic lesion can transform into an acute lesion when host-bacteria homeostasis is altered. This often occurs following incomplete instrumentation of roots with chronic severe periodontal disease or over instrumentation of the chronically diseased root canal past the apex.

Conclusion:

Treatment of the Odontogenic Abscess:

1. Involves three basic principles, establishment of drainage, identification and elimination of the infection source, and reconstruction of the tissue damage if needed.
2. Diagnosis and treatment of infections associated with teeth have been well researched in the literature.
3. Treatment strategies include mechanical debridement, surgery and systemic antibiotic administration.
4. Treatment of the odontogenic infections is important in overall patient health.

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