DEFINITION
Dental abscess is an acute infection of primary (baby) teeth or the structures supporting the tooth or gums.

IMMEDIATE CONSULTATION REQUIRED IN THE FOLLOWING SITUATIONS
- Gingival or facial cellulitis
- Spread of infection to face and surrounding area
- Any signs of ascending infection to the brain such as cavernous sinus thrombosis
- Difficulty in opening the mouth (trismus)
- Significant swelling of the floor of the mouth
- Signs of sepsis (e.g., fever, tachycardia, hypotension, tachypnea, altered mental status)
- Neck stiffness
- Immunocompromised client

CAUSES
- Progressive dental decay causing pulpitis from gram-positive anaerobes and bacteroides, streptococci, fusobacterium species, prevotella, and less frequently staphylococcus species
- Failed root canal treatment

PREDISPOSING AND RISK FACTORS
- Deep caries
- Poor dental hygiene
- Dental trauma

HISTORY
- Localized tooth pain of sudden onset, worsening over a few hours to a few days
- Constant deep, throbbing pain that worsens when lying down
- Pain worsens with mastication or exposure to cold, hot, or sugar
- Pain may radiate to the ear, lower jaw, or neck on the same side of the dental abscess
- Decrease in pain once the pus starts draining
- Stiffness or pain in the neck suggests complications
- Bad taste in the mouth
• Tooth may be mobile
• Fever and malaise are less frequent

Enquire about:
• Dental hygiene such as frequency of brushing and flossing
• Diet
• Previous dental procedures
• Recent facial trauma
• Comorbid disease conditions, immunocompromised states, drug-induced gum conditions

PHYSICAL FINDINGS
Be systematic about the oral exam including:
• External
• Internal (gums, teeth, palate, pharynx, tongue)
• Jaw
• Neck
• Ears

Typical findings include the following:
• Fever (rare but possible)
• Facial swelling may be present
• Carious tooth
• Large existing restoration
• Gingival edema and erythema
• Tooth mobility compared to its counterpart on the opposite side
• Draining fistula in the gum, more so than in a permanent tooth
• An elevated or discoloured tooth with increased mobility and tenderness
• Localized tenderness over affected area of jaw
• Anterior cervical nodes enlarged and tender
• Localized tooth pain and tenderness on percussion
• Check for regional lymphadenopathy
• If cellulitis is present, the following may also be present:
  o Erythema of gingiva and possibly the face
  o Diffuse, tense painful surrounding area
o Trismus (inability to open the mouth)
o Dysphagia

DIFFERENTIAL DIAGNOSIS
- Disease of the salivary gland
- Sinusitis
- Cellulitis
- Maxillary sinusitis
- Otitis externa
- Otitis media
- Unerupted teeth
- Localized lymphadenopathy

COMPLICATIONS
- Gingival and/or facial cellulitis
- Maxillary infection can spread to the periorbital area and may cause vision loss, cavernous sinus thrombosis, and central nervous system (CNS) involvement
- Sepsis
- Deep neck space infection is a rare but life threatening complication
- Ludwig’s angina
- Recurrent abscess formation
- A chronically abscessed primary tooth on a very young child can disrupt the development of the permanent successor tooth.

INVESTIGATIONS AND DIAGNOSTIC TESTS
- None

MAKING THE DIAGNOSIS
- Diagnosis is based on history and clinical findings.

MANAGEMENT AND INTERVENTIONS

Goals of Treatment
- Relieve symptoms
- Prevent spread of infection
Appropriate Consultation
- Consult a physician/RN(NP) if a large fluctuant abscess is present, if client is acutely ill, or if there is any suspicion that the infection has spread to the soft tissues of the neck or bone.
- Client should see a dentist for definitive management and follow-up of dental infections.

Non-pharmacological Interventions
- Warm saline oral rinses several times a day

Pharmacological Interventions
- Penicillin V potassium 25-50 mg/kg/day orally in two divided doses q12h for 7 days (maximum dose 2000 mg/day)
  Or
- Amoxicillin 25-50 mg/kg/day orally q8h for 7 days (maximum dose 3 g/day)

For penicillin allergy:
- Clindamycin 8-16 mg/kg/day orally divided into 3 or 4 equal doses for 7-10 days (maximum dose 1.8 g/day)
- When prescribing antibiotics, explain to the client/caregiver that antibiotic therapy is to reduce the spread of the infection and is not a substitute for dental treatment by a dentist.
- Regular analgesics should be taken to relieve the symptoms and the client should seek dental care as soon as possible.
- Do not routinely provide repeat treatments or switch antibiotics when the client fails to respond to the initial treatment as it may mask underlying complications (sinus or dental cyst).
- In those who do not respond to treatment, consider a different diagnosis and the possibility of the development of complications.

Analgesics for Children
- Acetaminophen 15 mg/kg/dose orally q4-6h prn (maximum dose 75 mg/kg/day)
  Or
- Ibuprofen 10 mg/kg/dose orally q8h prn (maximum dose 40 mg/kg/day)
Client and Caregiver Education
- Counsel client/caregiver about the appropriate use of medications (dose, compliance, side effects, etc.).
- Recommend dietary modifications (cool liquids or soft diet).
- Recommend improvements to dental hygiene.
- Avoid food or drink that may be too hot or cold.
- Brushing: use a soft toothbrush to reduce discomfort and avoid flossing the tooth with the abscess.
- Advise chewing on the other side of the mouth to reduce discomfort and irritation to the abscessed tooth.
- Advise that serious complications may happen if the abscess is not treated correctly by a dental practitioner (e.g., dentist, dental therapist).
- Discuss prevention of dental caries (e.g., discontinue bottle usage; avoid high sugar drinks; diet).

Monitoring and Follow-Up
- All clients should be referred, or advised to self-refer, to a dentist for follow-up.
- Consider follow-up in 48-72 hours if client is unable to be seen by a dental practitioner. Client should be counselled to follow-up if the pain becomes worse or if there is a concern that the infection is spreading.

Referral
- Refer to a dentist for definitive therapy such as dental filling, dental extraction, or incision and drainage. It is not necessary to have antibiotic coverage before referring to a dentist if there is no cellulitis present or if the client is not immunocompromised.

DOCUMENTATION
- As per employer policy

REFERENCES
DENTAL ABSCESS PRIMARY TEETH


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