SASKATCHEWAN REGISTERED NURSES' ASSOCIATION

RNs WITH ADDITIONAL AUTHORIZED PRACTICE
CLINICAL DECISION TOOL
DECEMBER 1, 2016

OTITIS MEDIA: CHRONIC SUPPURATIVE ADULT & PEDIATRIC

DEFINITION

Chronic suppurative otitis media (CSOM) is a perforated tympanic membrane with persistent drainage from the middle ear (e.g., lasting > 6-12 weeks) (Roland, 2013).

IMMEDIATE CONSULTATION REQUIRED IN THE FOLLOWING SITUATIONS

CSOM can become a dangerous clinical problem if it spreads from being a simple mucosal disease to causing in-growth of stratified epithelium into the middle ear (cholesteatoma). Occasionally, cholesteatoma may present with symptoms of central nervous system (CNS) complications such as:

- Sigmoid sinus thrombosis
- Epidural abscess
- Meningitis (cardinal signs):
  - Fever
  - Headache
  - Vomiting
  - Photophobia
  - Seizures
  - Confusion (Smith & Chang, 2014)

Immediate consultation is required if any of these complications are present

CAUSES

- CSOM is initiated by an episode of acute otitis media and tympanic membrane rupture.
- Common bacterial causes include:
  - *Pseudomonas aeruginosa*
  - *Staphylococcus aureus*
  - *Klebsiella pneumoniae*
- Anaerobes and fungi may grow concurrently with the aerobes in a symbiotic relationship (Roland, 2013).

PREDISPOSING AND RISK FACTORS

The risk of developing CSOM increases with the following circumstances:

- A history of multiple episodes of acute otitis media

- Living in crowded conditions
- Day care facility attendance
- Being a member of a large family
- Craniofacial abnormalities such as cleft palate, Down syndrome, cleft lip, and microcephaly can increase the risk of CSOM, presumably from altered eustachian tube anatomy and function (Roland, 2013).

HISTORY

- Decreased hearing
- Tinnitus
- Continuous foul smelling discharge from the ear
- Usually no pain exists but there may be an occasional dull ache
- No fever

PHYSICAL FINDINGS

- Client appears generally well
- Foul-smelling purulent drainage from ear canal
- Tympanic membrane perforation
- Conductive hearing loss

DIFFERENTIAL DIAGNOSIS

- Chronic otitis externa
- Sub-acute otitis media

COMPLICATIONS

- Permanent, severe hearing loss
- Mastoiditis
- Cholesteatoma (Health Canada, 2011)

INVESTIGATIONS AND DIAGNOSTIC TESTS

- No specific investigations needed.
- Drainage should be swabbed and cultured if there is no response to initial pharmacological treatment.

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MAKING THE DIAGNOSIS

- Made through history and observation of a ruptured tympanic membrane.

MANAGEMENT AND INTERVENTIONS

Goals of Treatment

- Prevent complications
- Avoid unnecessary use of antibiotics

Appropriate Consultation

- Consult a physician/RN(NP) immediately if cholesteatoma is suspected.

Non-Pharmacological Interventions

Clients with CSOM respond more frequently to topical therapy than to systemic therapy. Successful topical therapy consists of three important components:

1. Selection of an appropriate antibiotic drop
2. Regular aggressive aural toilet
3. Control of granulation tissue (Roland, 2013)

Pharmacological Interventions

- Dry wicking prior to instillation of ear drops

Mild to moderate CSOM:

- Topical antibiotic ear drop alone is sufficient:
  - Ciprofloxin /dexamethasone (Ciprodex) otic drops 4 drops q12h for 7 days

Severe CSOM:

- Presents with significant soft-tissue involvement
- Consult a physician/RN(NP) for inclusion of systemic antibiotics in addition to the topical therapy with ear drops

Client and Caregiver Education

- Council client/caregiver about appropriate use of medications (dose, frequency, compliance, etc.) and aural irrigation.
- Recommend against using cotton-tipped swabs for cleaning. Advise clients that the smallest thing allowed in the ear canal is an elbow.

- Recommend proper drying of ears after swimming, bathing, or showering and use of ear plugs when swimming, bathing, or showering.
- Counsel client/caregiver about proper hygiene of hearing aids and ear plugs.

Monitoring and Follow-Up

- Follow-up in 7 days.

Referral

- Referral to an ear, nose and throat (ENT) specialist may be necessary if treatment fails or complications develop. Surgical intervention is sometimes required.
- Pediatric clients should be referred if effusion persists for > 3 months, hearing loss is suspected, or retraction of the tympanic membrane is present.
- Referral is usually done by the physician/RN(NP).

DOCUMENTATION

- As per employer policy

REFERENCES

Anti-infective Review Panel. (2013). *Anti-infective guidelines for community-acquired infections.* Toronto, ON: MUMS Guideline Clearinghouse.

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