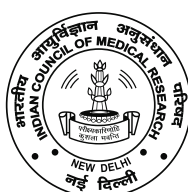
October/ 2019

Department of Health Research
Ministry of Health and Family Welfare, Government of India



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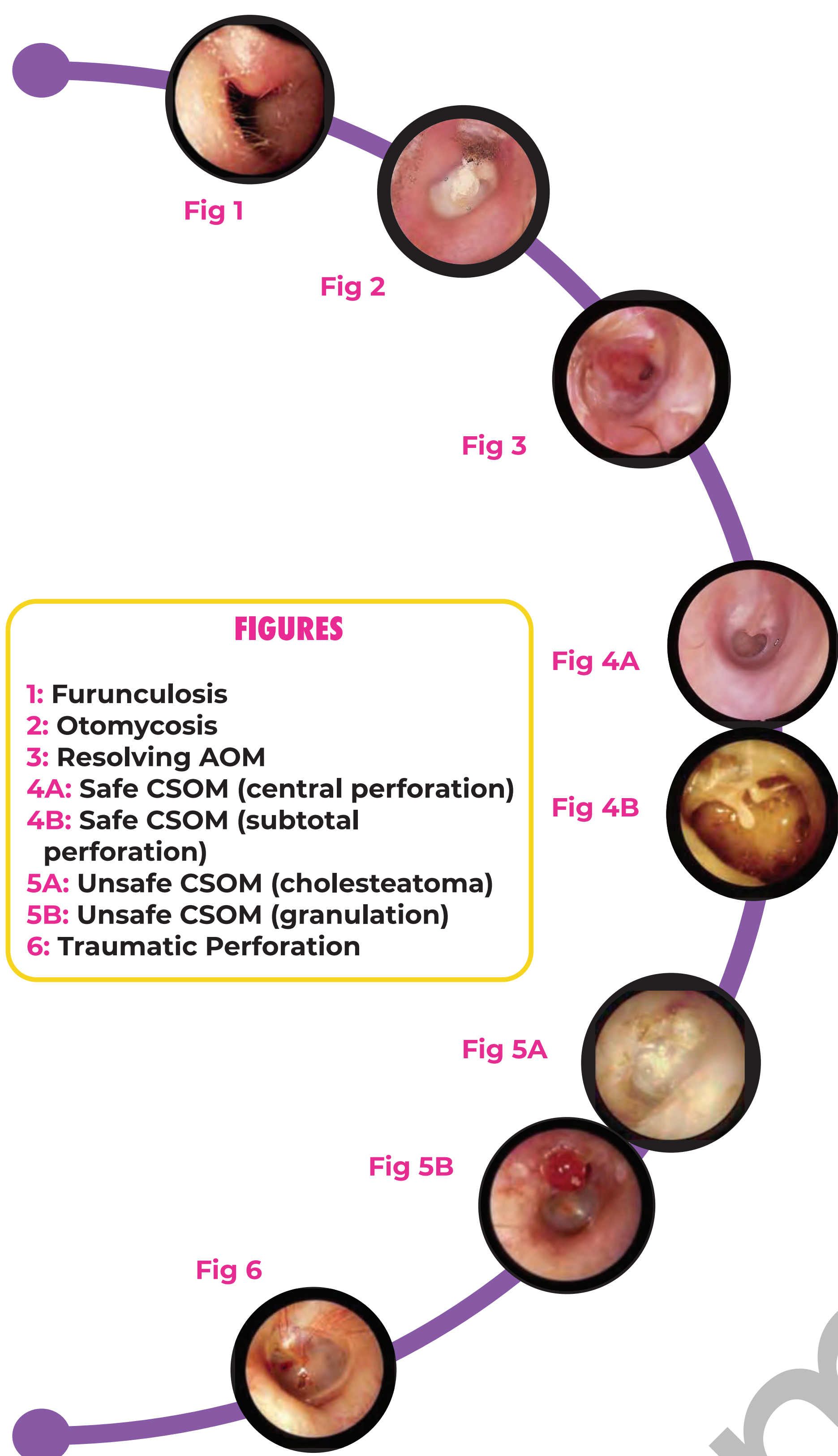
Standard Treatment Workflow (STW) for the Management of OTORRHOEA

ICD-10-H92.10

CLINICAL SCENARIOS



FIGURES

1: Furunculosis
2: Otomycosis
3: Resolving AOM
4A: Safe CSOM (central perforation)
4B: Safe CSOM (subtotal perforation)
5A: Unsafe CSOM (cholesteatoma)
5B: Unsafe CSOM (granulation)
6: Traumatic Perforation

DISEASES OF EXTERNAL EAR

- Serous/purulent discharge with significant tenderness of external ear amidst edema (localized-pus: furunculosis or generalized: **Acute otitis externa** denoting Staph/ Pseudomonas infection)
- Thick discharge with itching usually in hot/ humid climate: **Otomycosis** (Candida- white spores; Aspergillus- black spores) [Fig 2]
- Scanty serous discharge & itching with desquamated debris in ear canal **Eczematous otitis externa** (EAC)

DISEASES OF MIDDLE EAR

- URI with severe ear pain (manifested in children as inconsolable crying and ear tugging), relieved with episode of mucopurulent blood stained otorrhoea: **Resolving AOM** [Fig 3]
- Mucopurulent discharge > 12 weeks : CSOM
  - Active : otorrohoea in last 12 weeks
  - Inactive : no otorrohoea in last 12 weeks
  - Safe type : central perforation [Fig 4A] and total perforation [Fig 4B]
  - Unsafe type : cholesteatoma [Fig 5A] and granulation [Fig 5B]
- Recurrent painless profuse mucopurulent discharge with pale granulations/ multiple perforations unresponsive to antibiotics: **Tubercular otitis media** should be suspected and needs biopsy confirmation
- Bloody otorrhoea following Trauma: **Traumatic perforation**
- Acute onset bloody discharge with neural deficits/ neck nodes: **Neoplasia**
- Watery otorrhoea (may be associated with trauma) : **CSF Otorrhoea**

CLINICAL EXAMINATIONS

- Otoscopy as a part of Complete ENT examination by primary physician (Tele-otoscopy interpreted by physician)
- Hearing evaluation by conversation/ whisper/ Tuning forks tests
- General and systemic clinical examination

INVESTIGATIONS

- Pure tone audiometry
- Routine hemogram including blood sugar (fasting and postprandial)
- CT/ MRI in suspected complications (refer to red flags)
- Soft tissue x ray nasopharynx (To examine adenoid enlargement in children)
- Culture & sensitivity of aural

RED FLAGS FOR REFERRAL TO DISTRICT LEVEL

- Periaural abscess or cellulitis
- High grade fever, dizziness and toxic appearance
- Severe headache with neck stiffness/ vomiting / altered sensorium.
- Facial palsy/ Neurological defects
- Diabetic with severe deep seated ear pain / neural defects (Skull base osteomyelitis)
- Physical trauma with bloody/ watery discharge (suspected CSF leak)
- Suspected tuberculosis/ neoplasm

MANAGEMENT

PHC / PRIMARY LEVEL

- **Acute otitis externa:** Oral Ciprofloxacin/ Amoxycillin clavulanic acid combination for 7-10 days (2 weeks maximum) and analgesics. Ichthammol gycerine (1:9) packing of EAC in moderate to severe edema. Refer pus pointing furuncle to DH
- **Otomycosis:** Cleaning and Clotrimazole ear drops
- **Eczematous otitis externa:** Ciprofloxacin ear drops with steroid combination.
- **AOM / Resolving AOM:** Oral amoxicillin / Erythromycin / Clarithromycin for 10 days. With no response in 3 days start Amoxycillin clavulanic acid combination for 10 days. Refer to DH if no resolution
- **Inactive CSOM:** Referral to DH for surgery.
- **Active CSOM:** Ciprofloxacin ear drops with dry mopping & referral to DH for surgery. A course of oral antibiotics maybe prescribed in ase of persistant otorrhoea after topical antibiotics
- **Traumatic perforation:** Topical antibiotics for otorrhoea if any and maintain ear dry till healing complete
- In case of suspicion of complications start intravenous Amoxycillin clavulanic acid combination and refer to DH

DISTRICT HOSPITAL

- Surgical interventions except neurosurgical interventions (eg I&D, tympanoplasty, mastoidectomy)
- Biopsy in suspected neoplasm
- Medical management of medical co-morbidities such as diabetes, tuberculosis, meningismus/ meningitis

TERTIARY LEVEL

Surgical management particularly of intracranial complications including neurosurgical interventions

- Patient to be educated for proper technique of ear mopping, contralateral lie (10 min) following instillation of drops & avoiding water entry e.g ear-plugs during bathing
- To ensure adequate immunization (measles/ H.Influenza/ Pneumococcus) in recurrent AOM and to adopt correct posture during breastfeeding while avoiding bottle feeding
- Pus culture sensitivity to guide antibiotic regime in recurrent/ complicated cases

Patient education to refrain from indigenous (oil/ hot water/ acid etc) ear treatments

KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES

ABBREVIATIONS

CT: Computerized tomogram
MRI: Magnetic resonance imaging
AOM: Acute otitis media
CSOM: Chronic suppurative otitis media
EAC: External auditory canal
URI: Upper respiratory infection

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This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit our web portal (**stw.icmr.org.in**) for more information.

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