Specifi c diagnostic techniques

Key Procedures

Two specific diagnostic procedures should always be performed whenever an ear infection is suspected:

1. **Otoscopic examination**
2. **Cytological examination** of the discharge

Otoscopic Examination

- Aim:
  - Detect **foreign bodies** or **ear mites**
  - Assess the condition of the **vertical and horizontal canals**
  - Check the **appearance and integrity** **==of the tympanic membrane==**
  - Characterize the **type of exudate** present
- Important notes:
  - If the condition is **unilateral**, always examine the **good ear first** → prevents spread of infection + keeps the most uncomfortable procedure until last.

- In some cases, the ear canal may be too **painful, swollen, or full of exudate** → prevents meaningful examination.
  - Options:
    - Sedate or anaesthetize the animal for examination.
    - Start a preliminary course of treatment, then re-examine after a few days.
  - Choice depends on **severity** and clinician's **suspicion** of underlying causes.
- A **full otoscopic examination** must be performed at some stage in every case.

Cytological Examination

- Must be performed on the **first visit** and **all subsequent visits**.
- Can be done even if otoscopy isn't possible due to pain.
- Benefits:
  - Allows immediate differentiation of infectious agents:
    - **Co[1]cci**
    - [2]**Rods**
    - [3]**Malassezia**
  - **Cocci / Malassezia** → empirical treatment can be prescribed (sensitivity predictable).
  - **Rods** → always perform **bacterial culture & sensitivity testing** (resistance is common with Gram-negative organisms).

- Culture should also be done if:
  - The case **fails to respond** to treatment.

Practical Strategies for Routine Ear Cytology

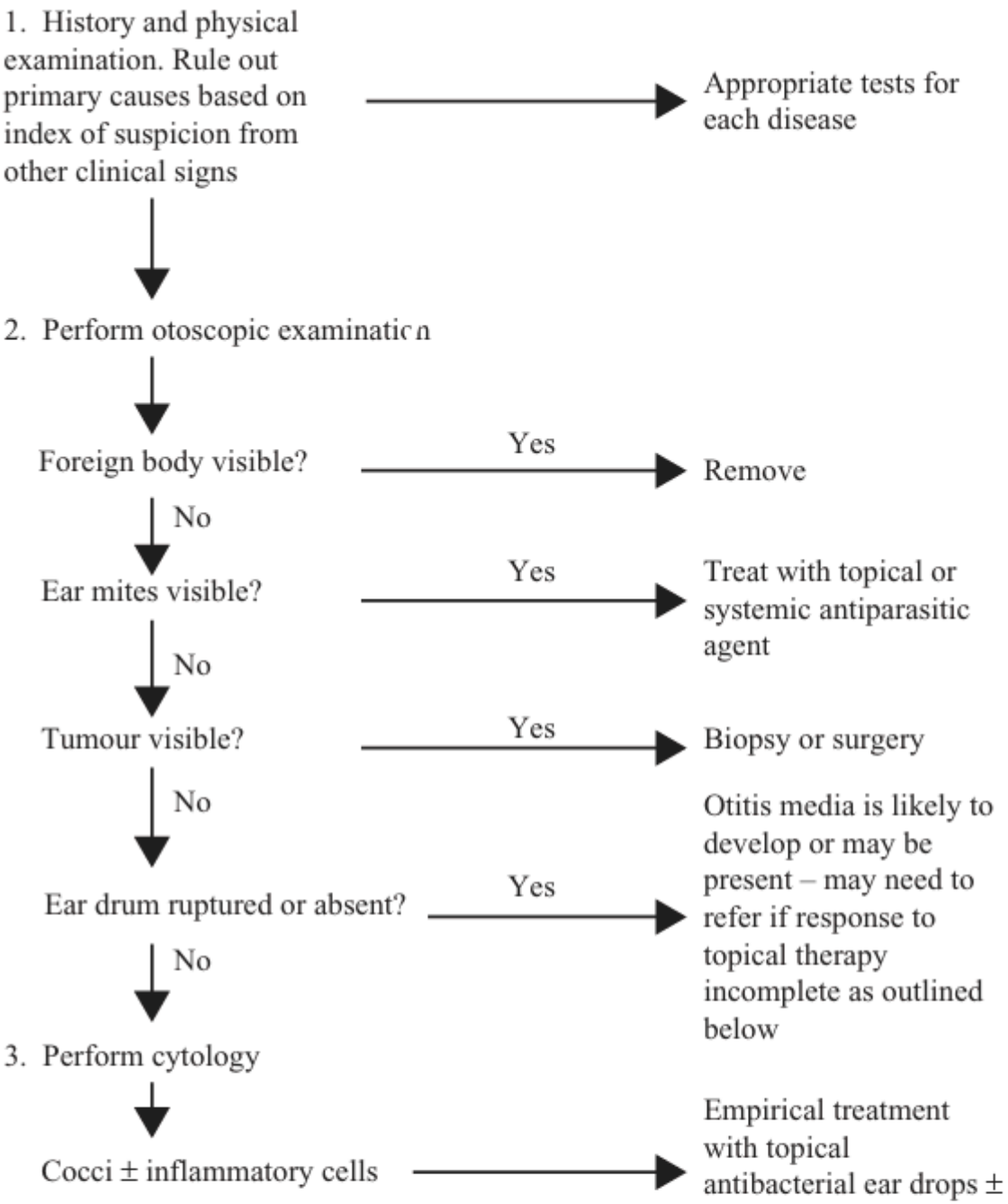
If there are time constraints, cytology can still be incorporated by:

- Training a **qualified nurse** to stain and examine samples while the client waits.
- Admitting the **dog for a short time** and performing the test later when time allows.
- Taking the sample and examining it later.
  - At the same time, collect a **sterile swab for possible culture**.
  - Submit the culture only if **rods** are seen.
  - ⚠ Less desirable: because cytology results should ideally guide **treatment choice**.
  - Best practice: client collects medication later, after test results are available.

Determining Underlying Cause

- In addition to diagnosing and treating the infection, clinicians must identify the **underlying cause**, especially in animals with **recurrent otitis**.

- Failure to address underlying cause → many cases become **chronic or recurrent**.


1. History and physical examination. Rule out primary causes based on index of suspicion from other clinical signs
Appropriate tests for each disease
2. Perform otoscopic examinatic n
Foreign body visible?
Yes
Remove
No
Ear mites visible?
Yes
Treat with topical or systemic antiparasitic agent
No
Tumour visible?
Yes
Biopsy or surgery
No
Ear drum ruptured or absent?
Yes
Otitis media is likely to develop or may be present – may need to refer if response to topical therapy incomplete as outlined below
No
3. Perform cytology
Cocci ± inflammatory cells
Empirical treatment with topical antibacterial ear drops ±

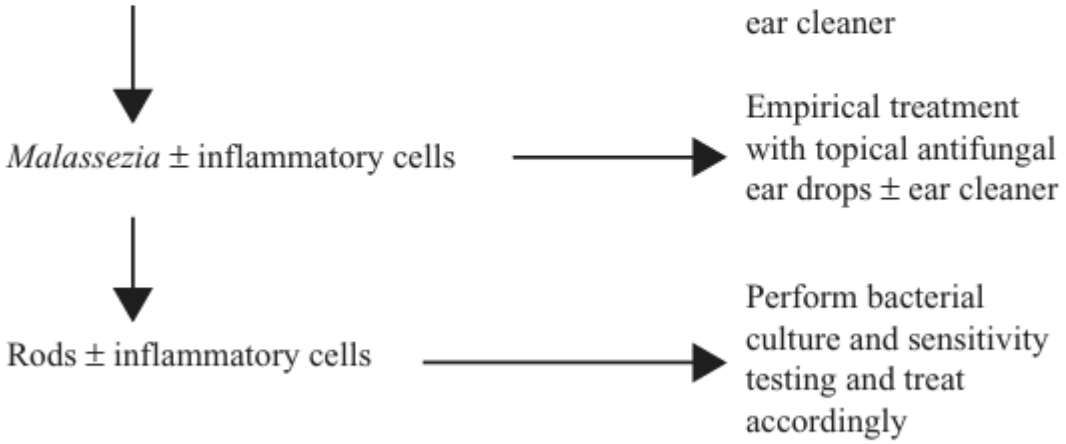


Figure 24.9 General diagnostic and therapeutic approach to acute otitis externa

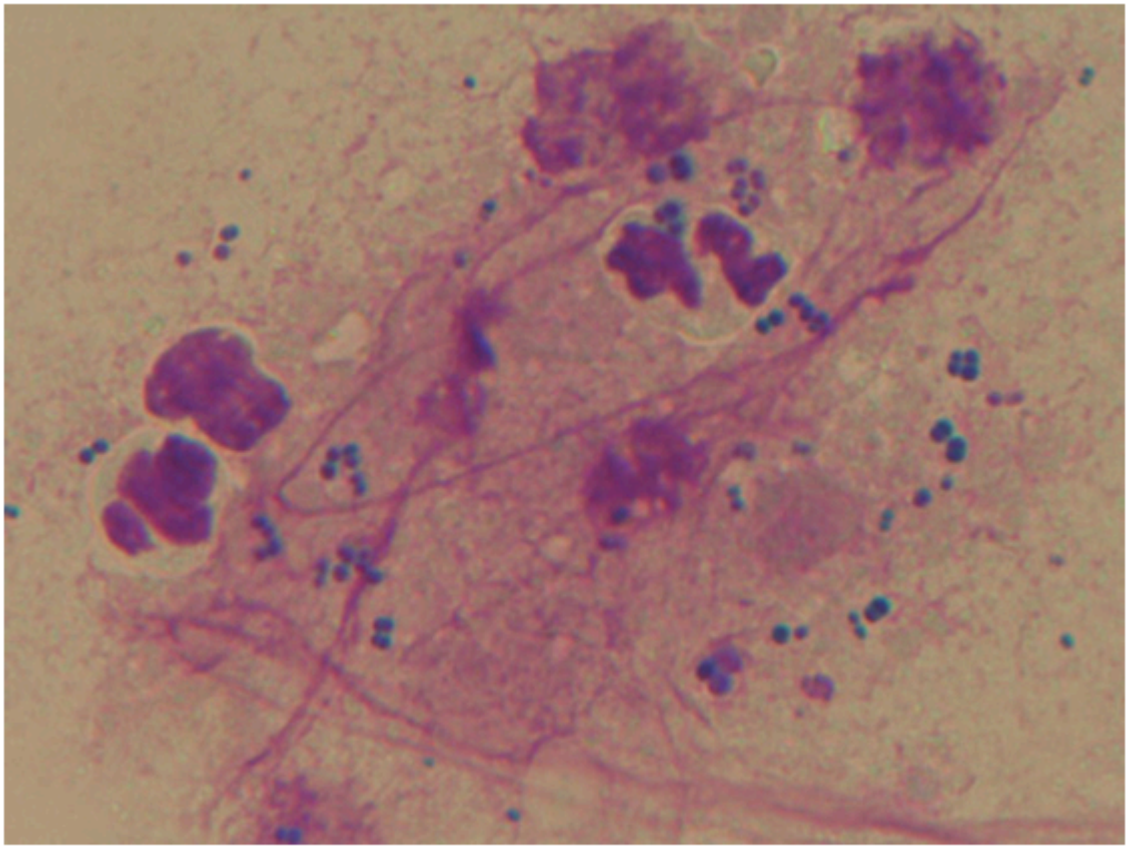


Figure 24.6 Neutrophilic inflammation with cocci

1. ↩

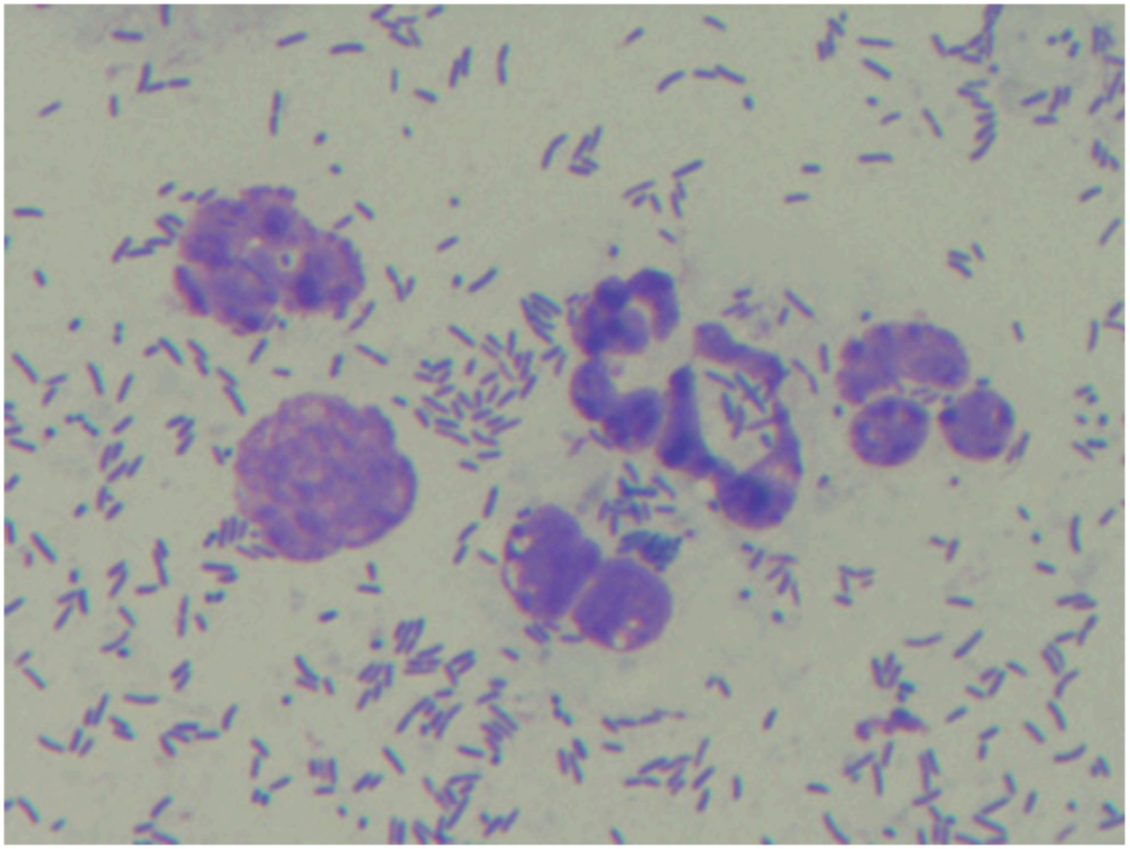


Figure 24.8 Neutrophilic inflammation with rods

2. ↩

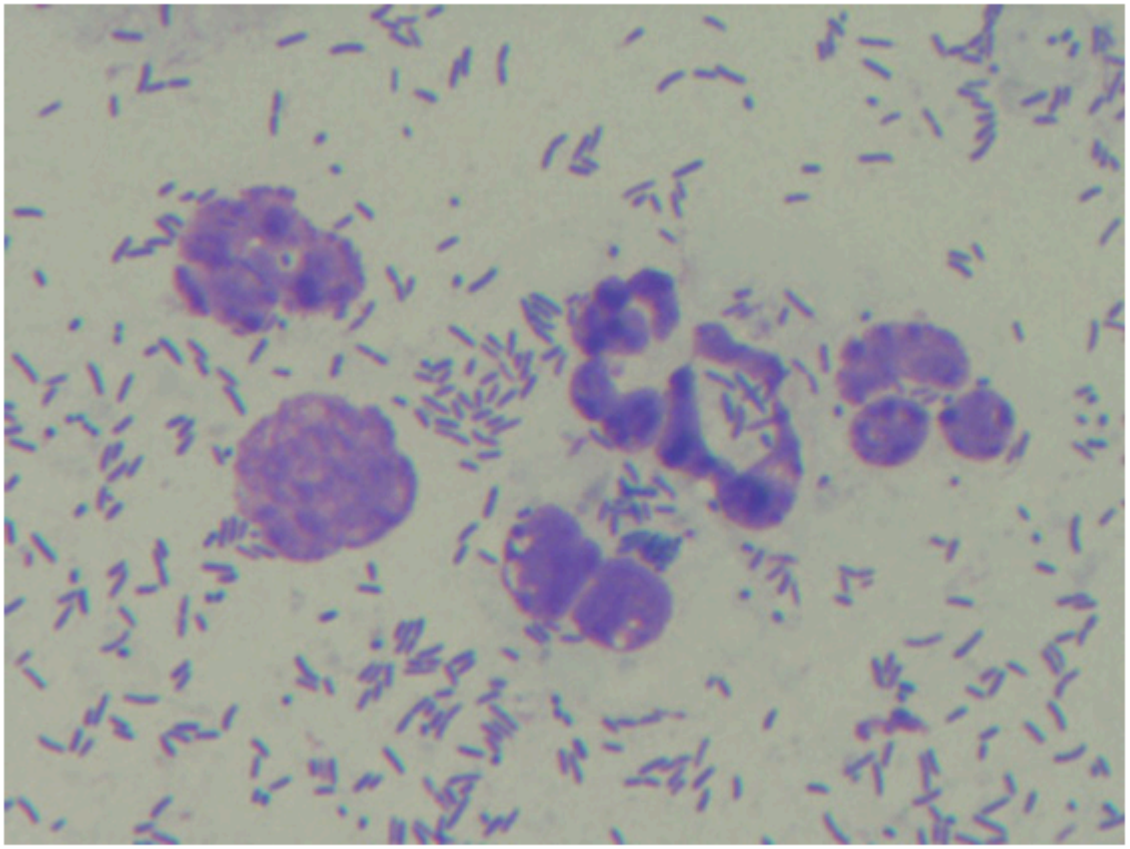


Figure 24.8 Neutrophilic inflammation with rods

3. ↩