Laboratory Training and Procedures

Techniques Used in Parasitology

Formaldehyde-detergent method
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Principle
An alternative technique to Ritchie’s formalin-ether sedimentation method, and one particularly useful to screen for protozoal cysts. The detergent (like ether) dissolves fecal debris, but more slowly.

Benefit: no need to use ether or a centrifuge.

Equipment
- Microscope
- Slides
- Cover glass
- Lugol’s iodine
- Concentrated formaldehyde (about 37%)
- Washing-up liquid (detergent)
- Water (distilled)
- Pipettes
- Beaker
- Conical tubes
- Filter / sieve (0.5 mm mesh)
- Glass rod

Operating method
1. Place a small bead of stools (or about 10 drops if watery stools) into a beaker filled with 2% detergent-formalin (at least 10 ml).
2. Mix well with glass rod, crushing any solid matter.
3. Filter through the sieve.
4. Rinse the filter in a few ml of 2% detergent.
5. Collect the filtrate (and rinsing fluid) in a tube or a container with a conical base.
6. Leave to settle for one hour.
7. Gently remove the supernatant by aspiration (do not touch the pellet).
8. Add 10 ml of 2% detergent–formalin to the pellet.
10. Leave to settle for one hour.
11. Gently remove the supernatant by aspiration (do not touch the pellet). Leave less than 0.5 ml of sediment / pellet.
12. Place between the cover slip and the blade, with and without Lugol’s iodine.
13. Examine the entire pellet.

Preparation of the reagent
Detergent-formalin:
- 1 ml detergent
- 1 ml formaldehyde
- 48 ml distilled water

Store for one month at room temperature, protected from light.

**Important:** Step 1 (preparing for fixation) can be performed before sending the sample to the laboratory. Sedimentation steps can be performed during the night.