



Pulmonary clofazimine-induced crystal-storing histiocytosis: Bronchoalveolar lavage cytological diagnosis

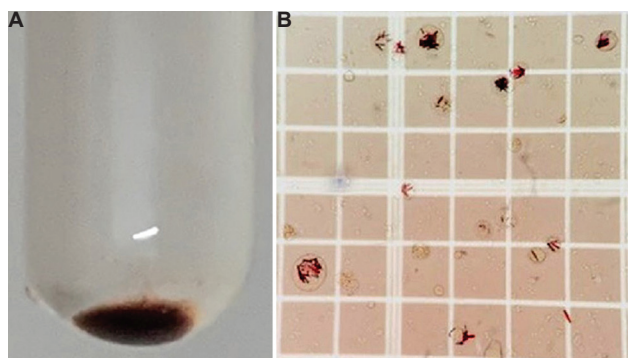


Fig. 1. (A) Black sediment with a reddish rim obtained on centrifugation of the bronchoalveolar lavage (BAL) fluid. (B) BAL fluid mounted on a Neubauer hemocytometer showing black-to-red, needle-shaped crystals within alveolar macrophages (unstained BAL fluid, $\times 100$).

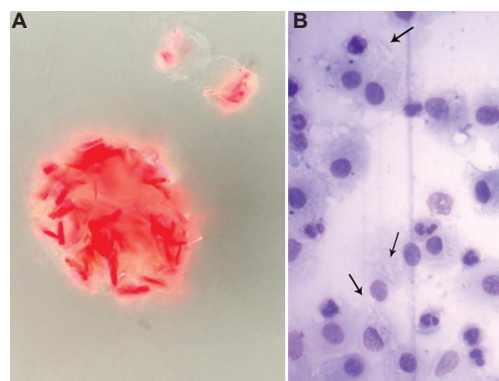


Fig. 2. (A) Alveolar macrophages loaded with birefringent, bright red and needle-shaped crystals characteristic of clofazimine (polarized unstained wet preparation, $\times 1000$). (B) Faint linear spaces in alveolar macrophages were the only possible clues in stained cytosmeas (arrows) (Leishman stain, $\times 100$).

A 37 yr old male[†] patient was subjected to a diagnostic bronchoalveolar lavage (BAL) in October 2019 for persistent dry cough and fluffy nodular shadows. He was a known case of multidrug-resistant tuberculosis treated with clofazimine and was currently tuberculosis culture negative. The BAL fluid was received in the department of Pathology, Seth Gordhandas Sunderdas Medical College, Mumbai, India, which showed reddish-black sediment (Fig. 1A) and dark needle-shaped crystals within alveolar macrophages (Fig. 1B). Bright-red birefringent crystal laden macrophages were highlighted by polarizing microscopy (Fig. 2A). This characteristic cytological appearance of clofazimine-induced crystal-storing histiocytosis was seen on polarizing microscopy only in frozen sections or unstained wet preparations.

Stained smears merely showed faint, linear spaces within alveolar macrophages possibly representing dissolved crystals (Fig. 2B).

This is a rare case of BAL cytological diagnosis of the under-recognized clofazimine-induced crystal-storing histiocytosis of the lung.

Conflicts of Interest: None.

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