

Research Correspondence

Application of confocal microscopy for detecting tuberculous lymphadenitis

Tuberculous lymphadenitis, a form of extra-pulmonary tuberculosis, is diagnosed through the detection of *Mycobacterium tuberculosis* in tissue samples. Lymphadenitis may be caused by both nontuberculous mycobacteria (NTMs) and *Mycobacterium tuberculosis* complex (MTBC). Here, we highlight the advantage of using a fluorescent dye in combination with Confocal Laser Scanning Microscopy (CLSM) for identifying *Mycobacterium tuberculosis* in histological sections of lymph node tissue after correlating with Clinical, histopathological, and microbiological findings. CLSM enables the differentiation of non-specific fluorescence from the *Mycobacterium tuberculosis* fluorescence through the spectral emission method. This method proved effective even in lymph node tissue samples exhibiting weak staining using the Ziehl-Neelsen method. Overall, the integration of fluorescent dye with CLSM visualisation substantially improves bacillary visualisation, facilitates faster processing, and reduces observer fatigue due to the black background.

Keywords Auramine-rhodamine stain; Confocal microscopy; Extrapulmonary tuberculosis; Tuberculous lymphadenitis; Ziehl-Neelsen stain