

- In Western countries, particularly in high-risk patient groups, this testing procedure may also supersede invasive studies.
- An ADA activity assay may not be generally available in medical centers.
- Particularly in underdeveloped areas, where laparoscopy may not be available and where TB is endemic, measuring ascites adenosine deaminase (ADA) levels is an important tool for the diagnosis of tuberculous peritonitis [8].

3.2.11 TB diagnostic technologies endorsed by WHO

Molecular detection of TB and drug resistance

- Xpert MTB/RIF Ultra for detecting TB and rifampicin resistance in pulmonary, extrapulmonary, and pediatric samples (Cepheid, Sunnyvale, California, USA)
- Line probe assays for detecting *Mycobacterium tuberculosis* (MTB), isoniazid resistance, and rifampicin resistance in acid-fast bacilli smear positive sputum or MTB cultures (FL-LPA) (Hain Lifescience GmbH, Nehren, Germany and Nipro, Osaka, Japan)
- Line probe assays for detecting resistance to fluoroquinolones and second-line injectable agents (SL-LPA) (Hain Lifescience GmbH)
- TB LAMP for detecting TB (Eiken Chemical Co., Ltd., Tokyo, Japan)

Nonmolecular technologies

- Alere Determine TB-LAM (Alere International Ltd., Galway, Ireland)—for detecting TB in people who are seriously ill with HIV
- Interferon-gamma release assay (IGRA) for diagnosing latent TB infection (LTBI) (Oxford Immunotec, Abingdon, UK; Qiagen, Germantown, Maryland, USA)

Culture-based technologies

- Commercial liquid culture systems and rapid speciation
- Culture-based phenotypic drug susceptibility testing (DST) using 1% critical proportion in LJ,7H10,7H11 and mycobacterial growth indicator tube (MGIT) media

Microscopy

- Light and light-emitting diode microscopy (diagnosis and treatment monitoring) [12]

3.3 Differential diagnosis

3.3.1 Peritoneal tuberculosis

Differential diagnosis based on lesion type [14]:

- *Ascites*: causes of exudative ascites—e.g., carcinomatous ascites, Budd–Chiari syndrome
- *Tubercles*: carcinomatosis