



**Disclosures.** All authors: No reported disclosures.

### 753. Screening for Latent *Mycobacterium tuberculosis* Infection (LTBI): A Clinical Conundrum of Public Health Concern

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**Background.** Tumor necrosis factor (TNF)- $\alpha$  inhibitors increase the risk of reactivating LTBI, hence screening is crucial prior to starting therapy. There is a lack of evidence to support a preferred screening regimen in this population, and either tuberculin skin tests (TST) or interferon- $\gamma$  release assays (IGRAs) are acceptable. Although difficult to assess, the sensitivity of IGRAs and TST are similar (80–95%), while IGRAs are considered to be more specific.

**Methods.** A 48-year-old White female in rural Iowa with a 30-year history of Crohn's disease was evaluated for TNF inhibitor therapy. She had no known risk factors for LTBI and was screened using an IGRA which yielded an indeterminate result. A repeat IGRA and a two-step TST were both negative. Subsequently, adalimumab was initiated. Adalimumab was discontinued after 9 months due to progression of Crohn's, and the patient underwent bowel surgery at a California hospital. Her course was complicated by bilateral pleural effusions requiring thoracentesis twice.

**Results.** The patient presented 1 month later with upper lobe infiltrative changes and mediastinal adenopathy. A third IGRA was performed and was non-reactive. A bronchoscopy with biopsy was then performed. The next day her dyspnea, cough and fevers worsened. She was admitted to an Iowa hospital where she was immediately put in airborne precautions. Her bronchoalveolar lavage acid-fast bacilli (AFB) smear was 4+, and an induced sputum showed 3+ AFB. Standard TB treatment was initiated. At least 59 patients (17 immunocompromised) and five employees in a private office and 13 employees at the Iowa hospital were exposed, in addition to an unknown number in California.

**Conclusion.** Although rare, there appears to be a risk for patients on TNF inhibitors who have multiple negative screening tests to become infected with TB. It is unclear whether this represents reactivation of undetected LTBI or new infection, although new TB cases are less likely in rural Iowa where the incidence is 1.53 per 100,000. Patients should be counseled to report any pulmonary symptoms to providers. As demonstrated by this case, airborne precautions should be implemented as soon as possible if clinical suspicion of TB is high despite negative screening tests to reduce exposure to others.

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### 754. Prevalence of Latent Tuberculosis Infection Among Healthcare Workers at a Tertiary Care University Hospital

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**Background.** We investigated the prevalence of latent tuberculosis infection (LTBI) among healthcare workers (HCWs) and analyzed its risk factors in a tertiary care university hospital in South Korea in a population with intermediate tuberculosis (TB) burden.

**Methods.** A standard questionnaire regarding the baseline demographics and risk factors for LTBI was given to each participant. QuantiFERON-TB GOLD In-Tube (QFT-GIT) assay and chest radiography were performed to investigate the rate of LTBI.

**Results.** A total of 1,429 participants, 213 (14.9%) doctors and 988 (69.1%) nurses and 228 (16.0%) others were enrolled. The mean age of the subjects was 33.0 years old, and 1,175 (82.2%) were female. Of the participants, 94.5% had received BCG vaccine. QFT-GIT assays were positive for 156 subjects (10.9%). Of the 213 doctors, 28 (13.1%) were positive by QFT-GIT, and among the 988 nurses, 94 (9.5%) had positive QFT-GIT results. Experience of working in hospital was significantly associated with positive LTBI test results by QFT-GIT assay. Gender and duration of employment as an HCW were significantly associated with having a positive QFT-GIT result in univariate analyses. In multivariate analyses, duration of employment as an HCW (>15 years) (odds ratio, 1.98; 95% confidence interval, 1.14–3.43) was independently associated with increased risk of a positive QFT-GIT result.

**Conclusion.** A high prevalence of LTBI was found among our HCWs. Considering the association between the experience of working in hospital and high risk of LTBI. The risk for tuberculosis infection among HCWs was higher than general population, which suggests that stricter preventive strategies against nosocomial tuberculosis infection should be implemented.

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### 755. Clinical Adherence to Latent Tuberculosis Screening Recommendations in Adults with Inflammatory Bowel Disease (IBD) Prior to Biologic Therapy

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**Background.** Biological agents have become increasingly common in the treatment of immune-mediated illnesses. Their use, however, is associated with an increased risk of progression from latent to active tuberculosis (TB) infection. The American Thoracic Society (ATS) recommends both a tuberculin skin test (TST) and an interferon gamma release assay (IGRA) be conducted to screen for latent TB prior to initiation of biologic therapy. We examined the adherence to these recommendations for adults with inflammatory bowel disease (IBD) in the Calgary region of Alberta.

**Methods.** In this retrospective cross-sectional study, we used the Alberta Health Services' Sunrise Clinical Manager and Netcare databases to identify IBD patients initiated on biologic therapy (age >18 years) in Calgary, Alberta between 2008 and 2018. Socio-demographic and clinical characteristics of patients were described. Linear and logistic regression models were constructed to identify factors associated with screening. All analyses were conducted using Stata 15.0 (University of London, UK).

**Results.** There was a total of 247 identified cases (48.18% female). Of these 96 were Ulcerative Colitis and 151 Crohn's Disease. The mean age was 39.5 (14.8 SD). There was a total of 210 (85%) who had documented screening with the TST and nine (3.4%) with the IGRA. In a multivariable analysis, factors associated with latent TB screening were age and outpatient setting at the time of screen. Six patients (2.43%) had positive screens and four of those six were treated for latent TB infection.

**Conclusion.** TST remains the predominant screening method for latent TB infection although the ATS recommends both IGRA and TST prior to biologic therapy. Screening varied with age and higher rates were noted in those evaluated as outpatients compared with inpatients. Further work is needed to evaluate the barriers to screening and to improve access to latent TB screening particularly in the inpatient setting.

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### 756. Targeting the Birth-Cohort of the Pre-antibiotic Era: A Proposal to Screen for Tuberculosis in Seniors in Arkansas

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**Background.** Approximately 13 million (4.7%) people in the United States have latent TB infection (LTBI). Persons born prior to 1951 have disproportionately higher LTBI prevalence, and frequently experience delays in TB diagnosis and TB deaths. Nevertheless, this birth-cohort was overlooked in the 2016 US Preventive Service Task Force (USPSTF) recommendation for LTBI screening. The aims of this project are to (1) determine the LTBI prevalence in this birth-cohort, (2) assess TB complications prevented by LTBI screening in this birth-cohort, and (3) raise TB awareness among providers and the community.