

Latent tuberculosis infection (LTBI) in rheumatology patients in Beaumont Hospital- A five-year review

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Background

- Detection and management of latent tuberculosis infection (LTBI) is a key component of the World Health Organisation's TB strategy.
- The risk of LTBI progression to active TB or reactivation is increased in immunosuppressed patients, including those with rheumatic diseases.
- In Beaumont Hospital, rheumatology patients are routinely screened for LTBI prior to the commencement of biologics/immunosuppressive therapy with Interferon-Gamma Release Assay (IGRAs).
- Patients with positive IGRA results are either managed by the rheumatology team or referred to infectious disease (ID) team for assessment. The management of indeterminate IGRA results is less well-defined.

Aims

To review the characteristics and subsequent management of rheumatology patients with positive and indeterminate IGRA.

Methods

- A retrospective review of positive and indeterminate IGRAs in rheumatology patients from 1st January 2016 to 31st December 2020.
- Details of IGRA results and indications for testing were obtained from laboratory records.
- Patient details and subsequent management of positive and indeterminate IGRAs were obtained from the patient information system.

Results

- Of 814 patients (median age 54 years, range 17-92, interquartile range 12) who had undergone IGRA screening, 498 (61%) were females, 563 (69%) were tested prior to commencement of biologics and 251 (31%) on clinical suspicion for LTBI.
- With the exception of 2020, IGRA screening increased over the study period. (Figure 1)
- In total, 4.7% (n=38) rheumatology patients had positive IGRA results, with 92.9% (n=756) negative and 2.4% (n=20) indeterminate results over the study period. (Figure 2)
- Thirty-eight patients (twenty-two male, 57.9%) of whom thirty-two (84.2%) were Irish had positive IGRA results. These included patients with rheumatoid arthritis (n=21, 55.3%), psoriatic arthritis (n=8, 21%) and other conditions (n=9, 23.7%). Follow-up included chest radiography (n=38) and CT thorax (n=10) which showed no evidence of tuberculosis. Twenty-four patients (63.2%) with positive IGRAs were referred to ID specialists for further management and twenty (52.6%) were commenced on anti-tuberculosis therapy.
- Twenty Irish patients (eight males, 40%) had initial indeterminate IGRAs, of whom four were diagnosed for LTBI and treated with anti-tuberculosis therapy. These included patients with rheumatoid arthritis (n=9, 45%) and other conditions (n=11, 55%).
- Of the twenty patients, sixteen were prescribed prednisolone therapy. LTBI was ruled out in four patients on high dose prednisolone and five on low dose prednisolone because of normal chest-radiography, CT thorax and further ID specialist consultation. LTBI was ruled out in the remaining seven on high dose prednisolone upon negative repeat IGRA testing.

Figure 1: Distribution of IGRA results by year in Beaumont Hospital rheumatology patients, 2016-2020

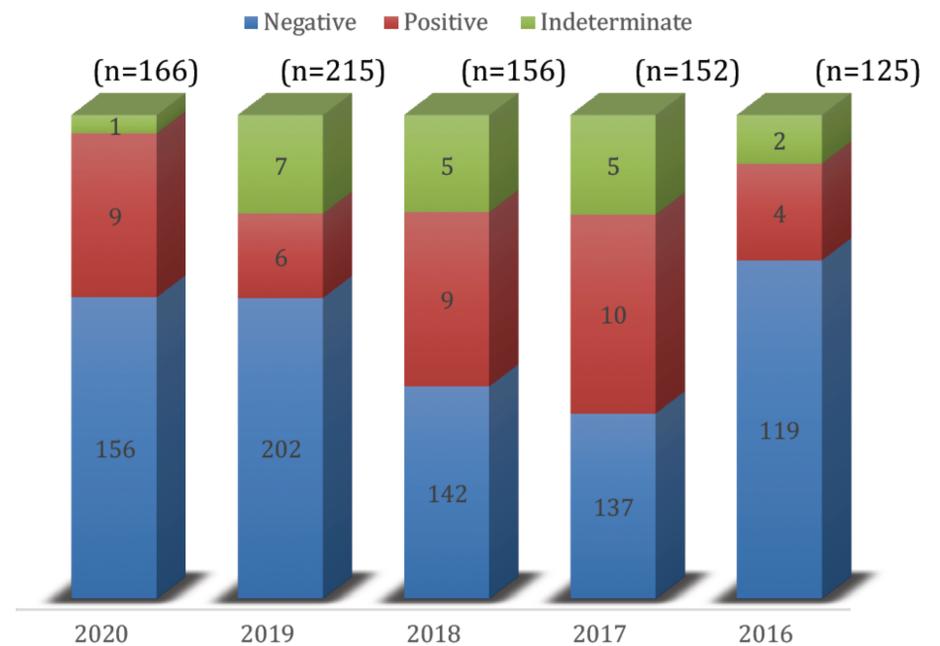
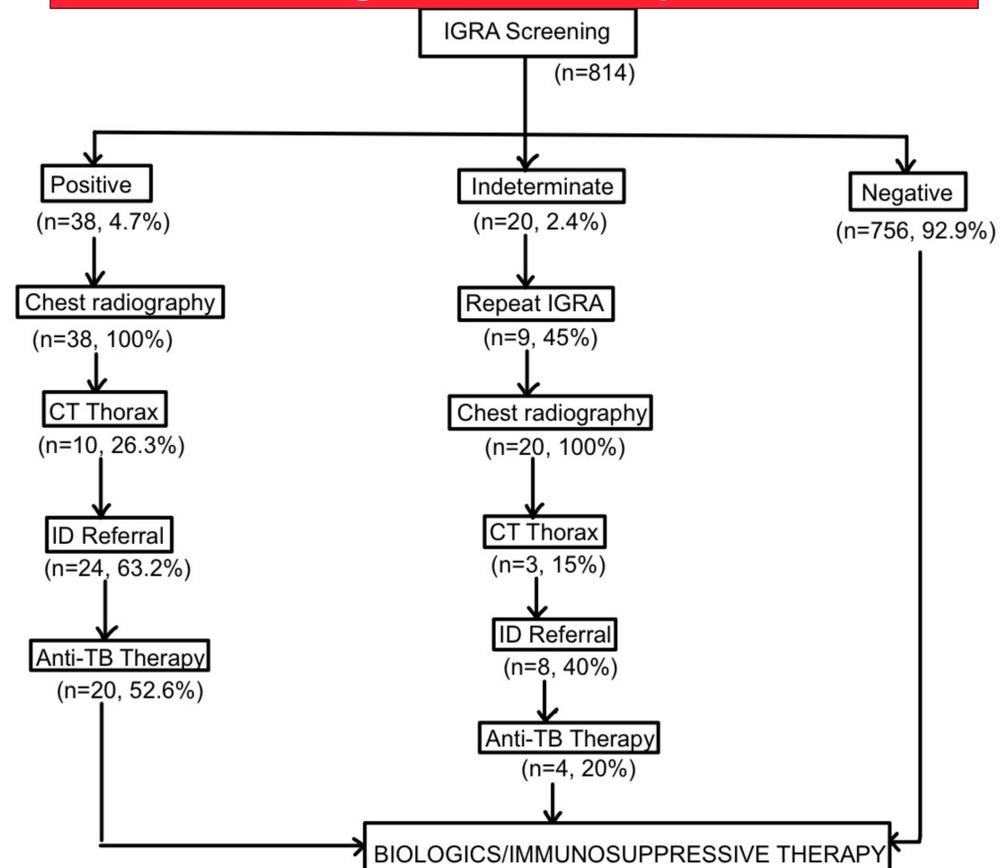


Figure 2: Management of rheumatology patients post-IGRA screening in Beaumont Hospital, 2016-2020



Conclusion

- Our reported 4.7% prevalence of LTBI in this population is in line with published reports (5-10%).
- Less than 50% of the indeterminate IGRAs were re-tested in order to determine LTBI status, this is an area for improvement and re-audit.
- Referral of all positive IGRAs to the ID service would streamline and standardise patient management and follow-up.
- Further inclusion of data from other centres would assist in defining the national burden of LTBI in this patient population.