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Conflict of interest:

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Serial Tuberculin Skin Test Improves the Detection of Latent Tuberculosis Infection in Inflammatory Bowel Disease Patients

Taxonera C, *Ponferrada A, Bermejo F, Gisbert JP, Riestra S, Saro C, Cabriada JL, Barreiro-de Acosta M, Barrio J, Flores E, Ferrer I, Hernandez A, Van Domselaar M, Olivares D, Alba C, Fernández-Salazar L, Merino O, Botella B, Ceballos D, Moral I, Peñate M, Algaba A, on behalf of the SEGURTB Study Group from GETECCU*

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Background and Aims

- Despite all preventive action, active tuberculosis (TB) still occurs in patients on anti-TNF therapy
- Steroids and/or immunosuppressant's markedly reduce sensitivity of tuberculin skin test (TST) performed before anti-TNF therapy[1]
- The risk of conversion of serial TST in inflammatory bowel disease (IBD) patients whose initial 2-step TST was negative is not well known
- **The aim of this study was to determine the likelihood of detecting latent TB infection by the positive conversion of annual TST in IBD patients**

[1]Early Tuberculin Skin Test for the Diagnosis of Latent Tuberculosis Infection in Patients with Inflammatory Bowel Disease. Taxonera C, et al. *JCC* 2017, in press

Methods

- This was a prospective multicentre controlled study
- We included consecutive IBD patients on anti-TNF therapy and a control cohort of IBD patients not receiving anti-TNF therapy
- All patients with a negative initial 2-step TST had a second single TST one year later
- We evaluated the rate and predictors of positive conversion of TST (including the change in number of immunosuppressive drugs [steroids and/or immunosuppressant's and/or anti-TNF])
- We recorded management of patients who had TST conversion and occurrence of active TB during follow-up

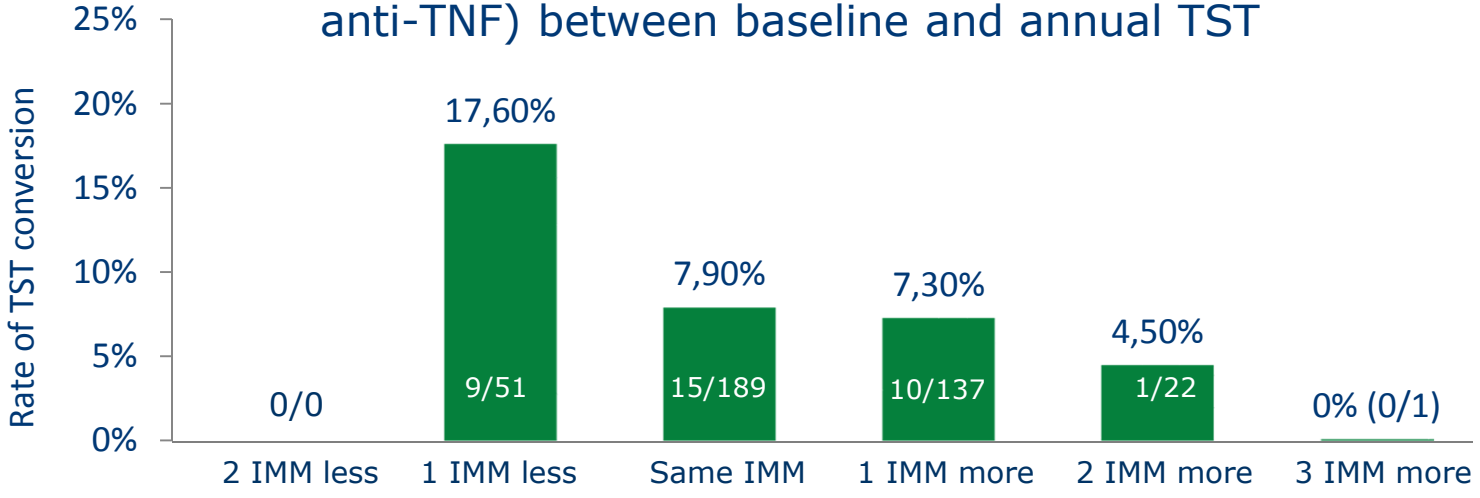
Results

- We enrolled 412 patients: 192 patients (47%) on anti-TNF cohort and 220 controls (53%)
- Thirty-five patients (**8.5%**, 95% CI 5.7–11.3) **had a positive conversion in the annual TST** (median TST induration 13 mm, range 5–20)
- Eleven of 192 **anti-TNF** cohort patients (**5.8%**, 95% CI 2.2–9.3) vs. 24 of 220 **controls** (**10.9%**, 95% CI 6.6–15.2) had TST conversion (p=0.037)
- All 11 anti-TNF cohort patients with an annual positive TST received treatment for latent TB infection and continued with anti-TNF therapy. Eleven of 24 controls (46%) with TST conversion received preventive therapy
- No patient developed active TB after 607 and 676 patient-years of follow-up of for anti-TNF and control patients, respectively

Results

- In multivariate analysis patients receiving anti-TNF therapy had a lower rate of TST conversion (**OR 0.36**, 95% CI 0.15–0.83, p=0.017)
- Conversely, smokers had a higher rate of TST conversion (**OR 3.62**, 95% CI 1.66–7.88, p=0.001)

Rate of conversion of annual TST according to change in number of immunosuppressive drugs (steroids and/or immunosuppressant's and/or anti-TNF) between baseline and annual TST



Conclusions

- Patients with IBD were at high risk of conversion in the annual TST after an initial negative 2-step TST
- Anti-TNF therapy reduced the likelihood of annual TST conversion
- Although the exact significance of these positive conversions is not well known, annual TST seems to be advisable as baseline false negative responses to latent TB infection or new TB contacts are possible in IBD patients receiving long-term anti-TNF therapy, especially in countries with a moderate to high prevalence of TB