The prevalence of latent tuberculosis in dermatology patients on immunosuppressant therapy in New Orleans, Louisiana: A retrospective record review

To the Editor: Up to 13 million people in the United States have latent tuberculosis (TB).[1] Use of immunosuppressant therapies increases the risk for seroconversion to latent TB; however, there is no consensus guideline for the frequency of TB testing during the treatment course. The American Academy of Dermatology guidelines for tumor necrosis factor (TNF)—inhibitor therapy recommend initial TB screening, but repeat testing is at the discretion of the dermatologist.[2] Recent studies from areas of low prevalence of TB have shown low rates of seroconversion during TNF-inhibitor therapy, questioning the need for annual TB testing.[3]

This study determined the rates of seroconversion to latent TB in a high prevalence area in patients on immunosuppressant therapy for dermatologic diseases. In New Orleans, the TB case rate in 2018 was 4.3 per 100,000 patients compared with the United States national rate of 2.8 per 100,000 persons.[4] However, this statistic does not reflect the number of latent TB infections due to lack of reporting requirements. Latent TB occurs in an asymptomatic patient with a positive TB test and negative chest x-ray imaging.

A retrospective record review was performed at 2 hospital systems in New Orleans, Louisiana, between October 10, 2011, and June 8, 2018. The demographics of the population included a diverse population of privately insured, government-sponsor insured, and uninsured patients. *International Classification of Diseases-10* codes

Age	Sex	Race	Indication	Treatment	Duration of Therapy Before Seroconversion (Months)
61	F	Hispanic	Psoriasis, PsA	apremilast	12
40	M	Hispanic	Psoriasis	etanercept, MTX	9
55	F	Hispanic	Psoriasis, PsA	etanercept	5
64	M	African American	Psoriasis	prednisone, MTX	12
65	F	African American	Pemphigus Vulgaris	prednisone, mycophenolate mofetil	48
62	M	African American	Psoriasis, PsA	adalimumab	15
82	M	Hispanic	Psoriasis, PsA	MTX	36
61	F	Caucasian	Psoriasis, PsA	MTX	unknown
42	M	Caucasian	Psoriasis, PsA	adalimumab	8
55	M	African American	Psoriasis, PsA	ustekinumab	24
58	F	Caucasian	Psoriasis, PsA	adalimumab	24
79	M	Hispanic	Psoriasis, PsA	infliximab	36
44	M	Caucasian	Psoriasis, PsA	adalimumab	12

Fig 1. Characteristics of the patients who developed latent tuberculosis while being treated with immunosuppressant therapy. *F*, Female; *M*, male; *MTX*, methotrexate; *PsA*, psoriatic arthritis.

were used to identify dermatology patients on immunosuppressive therapies, of which 544 patients had at least 2 serologic TB tests. Patients were excluded if they had a positive TB test before initiating immunosuppressive therapy. TB screening tests included were interferon-γ release assays, such as QuantiFERON-TB Gold (QFT-GIT; Quest Diagnostics, Secaucus, NJ) and T-SPOT.*TB* (Oxford Immunotec USA, Marlborough, MA). We considered patients with positive interferon-γ release assays to have evidence of latent TB (Fig 1). Borderline T-SPOTs were considered positive if repeat testing was borderline, and indeterminate QFT-GIT results were considered negative. One percent (6 of 544) of patients had a false indeterminate/borderline result that was negative on repeat testing.

During immunosuppressant treatment, 13 of 544 patients (2.4%; median age, 59 years) had a positive TB test. Of the 13 patients, 7 (53.8%) were taking TNF inhibitors, with an average of 15.6 months to seroconversion, and 6 (46.1%) were receiving other immunosuppressant therapies, such as methotrexate, with an average of 26.4 months to seroconversion. Twelve (92%) were being treated for psoriasis or psoriatic arthritis, and 9 (69%) were nonwhite (Fig 1). In patients who tested positive, medications were stopped, and therapy would not be reinitiated until initiation of latent TB treatment by infectious disease specialists or the Health Department TB clinic.

Our study shows high rates of seroconversion in patients receiving immunosuppressant therapy in a high-prevalence area. Patients taking TNF inhibitors seroconverted earlier than patients taking other immunosuppressive agents. Patients taking methotrexate and prednisone had an average time to seroconversion that was nearly double that of the TNF inhibitor group.

Limitations of the study include the retrospective study design and the selection bias of patients with psoriasis over other dermatologic diseases.

This study supports annual TB screening in patients taking TNF inhibitors and oral systemic agents in areas of high TB prevalence.

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Ustekinumab does not increase tuberculosis risk: Results from a national database in South Korea

To the Editor: Biologics have become the main treatment modality for psoriasis in recent decades.[1] Ustekinumab, a monoclonal antibody against human interleukin 12 and 23, exhibits high efficacy with relatively low adverse events among various biologics for psoriasis.[2] Although no active tuberculosis was reported after isoniazid prophylaxis in patients with latent tuberculosis in 5 phase 3 trials of ustekinumab,[2] the relationship between ustekinumab and tuberculosis infection is still unclear. The purpose of this study was to evaluate the risk of active tuberculosis infection in Korean patients treated with ustekinumab. The prevalence of psoriasis in South Korea is comparable to that in other Asian populations, at approximately 0.5%.[3]