

Utility of Tuberculosis Screening in Psoriasis Patients Treated with Biologics and Traditional Immunosuppressant Medications: Experience at a Single US Institution



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Introduction

- The rate of seroconversion from latent to active TB in areas of low prevalence is extremely low.³⁻⁵
- However, conflicting guidelines exist regarding the monitoring of patients treated with biologic drugs for reactivation of newly acquired TB infection, despite initial negative screening.
 - American College of Rheumatology does not recommend repeat TB testing after initially negative results.
 - National Psoriasis Foundation advocates for yearly screening while on tissue necrosis factor (TNF)- α therapy.¹⁻²
- Objective:** To determine if the incidence of TB conversion in psoriasis patients treated with biologic and traditional immunosuppressant drugs is high enough to support continued TB testing at SIU SOM.

Methods

- Retrospective study of SIU SOM's EHR from January 2004 to July 2019
- Patients with ICD-9/10 codes:
 - Psoriasis – 696.1/L40.9.
 - Encounter for long term current use of medication/high risk medication monitoring – V58.69/Z79.899.

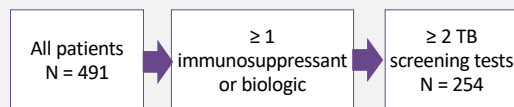


Figure 1: Inclusion criteria

- Chart review:
 - Medications
 - Treatment duration
 - Baseline and follow up TB testing results
 - TB risk factors
 - Foreign born
 - History of working in a prison
 - History of incarceration
 - Opportunistic infection(s) development

Results

Table 1. Patient characteristics and results

Variable	Included patients (n = 254)
Age, years, mean (SD)	54 (15.6)
Female, n (%)	146 (57.5)
Treatment duration, months, mean (SD)	76 (52.3)
Positive seroconversions, n (%)	4 (1.6)
Opportunistic infections, n (%)	4 (1.6)
Foreign born, n (%)	2 (0.8)
Worked in a prison, n (%)	0 (0)
History of incarceration, n (%)	1 (0.04)

Table 2. Traditional Immunosuppressants prescribed

Traditional Immunosuppressant	N	Percent
Methotrexate	189	74.4%
Cyclosporine	23	9.1%
Leflunomide	16	6.3%
Sulfasalazine	14	5.5%
6-Thioguanine	10	3.9%
Hydroxychloroquine	6	2.4%
Mycophenolate mofetil	4	1.6%
Azathioprine	2	0.9%
6-Mercaptopurine	1	0.4%
Hydroxyurea	1	0.4%

Table 3. Biologics prescribed

Biologic	N	Percent
Adalimumab (Humira)	158	62.2%
Etanercept (Enbrel)	114	44.9%
Ustekinumab (Stelara)	80	31.5%
Secukinumab (Cosentyx)	34	13.4%
Apremilast (Otezla)	26	10.2%
Infliximab (Inflectra, Remicade)	20	7.9%
Ixekizumab (Taltz)	20	7.9%
Efalizumab (Raptiva)	16	6.3%
Guselkumab (Tremfya)	5	2.0%
Alefacept (Amevive)	4	1.6%
Abatacept (Orencia)	3	1.2%
Certolizumab pegol (Cimzia)	1	0.4%
Risankizumab (Skyrizi)	1	0.4%
Sarilumab (Kevzara)	1	0.4%
Tofacitinib (Xeljanz)	1	0.4%

- Four (1.6%) patients seroconverted to positive, but none developed overt signs or symptoms of infection.
- These patients had independent risk factors for TB including occupational exposure (health care professional and military service abroad) and intrinsic immunocompromise.
- All received appropriate treatment for latent TB.
- No patient with selected TB risk factors seroconverted to positive.

Conclusions

- Routine, repeated screening for TB in patients on biologic therapy may lead to the overutilization of resources, increased costs, false positive results, and unnecessary treatment.
- Our findings support previous studies demonstrating that routine TB screening in patients treated with biologics may not be necessary without risk factors and in areas of low prevalence.
- Routine TB testing should be individualized based on patient characteristics, exposures, and geographic prevalence.

References

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