Proactive infectious disease approach to dermatologic patients who are taking tumor necrosis factor–alfa antagonists

Part II. Screening for patients on tumor necrosis factor–alfa antagonists

Lisa M. Chirch, MD,[a] Philip R. Cataline, MD,[a] Kevin D. Dieckhaus, MD,[a] and Jane M. Grant-Kels, MD[b]
Farmington, Connecticut

CME INSTRUCTIONS

The following is a journal-based CME activity presented by the American Academy of Dermatology and is made up of four phases:

1. Reading of the CME Information (delineated below)
2. Reading of the Source Article
3. Achievement of a 70% or higher on the online Case-based Post Test
4. Completion of the Journal CME Evaluation

CME INFORMATION AND DISCLOSURES

Statement of Need:

The American Academy of Dermatology bases its CME activities on the Academy's core curriculum, identified professional practice gaps, the educational needs which underlie these gaps, and emerging clinical research findings. Learners should reflect upon clinical and scientific information presented in the article and determine the need for further study.

Target Audience:

Dermatologists and others involved in the delivery of dermatologic care.

Accreditation

The American Academy of Dermatology is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

AMA PRA Credit Designation

The American Academy of Dermatology designates this journal-based CME activity for a maximum of 1 *AMA PRA Category 1 Credits*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

AAD Recognized Credit

This journal-based CME activity is recognized by the American Academy of Dermatology for 1 AAD Credit and may be used toward the American Academy of Dermatology's Continuing Medical Education Award.

Disclaimer:

The American Academy of Dermatology is not responsible for statements made by the author(s). Statements or opinions expressed in this activity reflect the views of the author(s) and do not reflect the official policy of the American Academy of Dermatology. The information provided in this CME activity is for continuing education purposes only and is not meant to substitute for the independent medical judgment of a healthcare provider relative to the diagnostic, management and treatment options of a specific patient's medical condition.

Disclosures

Editors

The editors involved with this CME activity and all content validation/peer reviewers of this journal-based CME activity have reported no relevant financial relationships with commercial interest(s).

Authors

The authors of this journal-based CME activity have reported no relevant financial relationships with commercial interest(s).

Planners

Dr Brodell is a planner and has reported the following financial relationships: Allergan, Speaker, Honorarium; Galderma, Consultant, Honorarium; Galderma, Speaker, Honorarium; Genentech, Principle Investigator, Honorarium; Pharmaderm, Speaker, Honorarium. The other peer-reviewer involved with this journal-based CME activity has reported no relevant financial relationships with commercial interest(s). The editorial and education staff involved with this journal-based CME activity have reported no relevant financial relationships with commercial interest(s).

Resolution of Conflicts of Interest

In accordance with the ACCME Standards for Commercial Support of CME, the American Academy of Dermatology has implemented mechanisms, prior to the planning and implementation of this Journal-based CME activity, to identify and mitigate conflicts of interest for all individuals in a position to control the content of this Journal-based CME activity.

Learning Objectives

After completing this learning activity participants should be able to implement appropriate screening protocols in the pretherapeutic evaluation of psoriatic patients considering TNF inhibitor therapy and initiate appropriate preventive and therapeutic interventions before and during such therapies, in order to best avoid infectious complications.

Date of release: July 2014
Expiration date: July 2017

http://dx.doi.org/10.1016/j.jaad.2014.01.879

Technical requirements:

American Academy of Dermatology:

- Supported browsers: FireFox (3 and higher), Google Chrome (5 and higher), Internet Explorer (7 and higher), Safari (5 and higher), Opera (10 and higher).
- JavaScript needs to be enabled.

Elsevier:

Technical Requirements
This website can be viewed on a PC or Mac. We recommend a minimum of:

- PC: Windows NT, Windows 2000, Windows ME, or Windows XP
- Mac: OS X
- 128MB RAM
- Processor speed of 500MHz or higher
- 800x600 color monitor
- Video or graphics card
- Sound card and speakers

Provider Contact Information:

American Academy of Dermatology
Phone: Toll-free: (866) 503-SKIN (7546); International: (847) 240-1280
Fax: (847) 240-1859
Mail: P.O. Box 4014; Schaumburg, IL 60168

Confidentiality Statement:

American Academy of Dermatology: POLICY ON PRIVACY AND CONFIDENTIALITY

Privacy Policy - The American Academy of Dermatology (the Academy) is committed to maintaining the privacy of the personal information of visitors to its sites. Our policies are designed to disclose the information collected and how it will be used. This policy applies solely to the information provided while visiting this website. The terms of the privacy policy do not govern personal information furnished through any means other than this website (such as by telephone or mail).

E-mail Addresses and Other Personal Information - Personal information such as postal and e-mail address may be used internally for maintaining member records, marketing purposes, and alerting customers or members of additional services available. Phone numbers may also be used by the Academy when questions about products or services ordered arise. The Academy will not reveal any information about an individual user to third parties except to comply with applicable laws or valid legal processes.

Cookies - A cookie is a small file stored on the site user's computer or Web server and is used to aid Web navigation. Session cookies are temporary files created when a user signs in on the website or uses the personalized features (such as keeping track of items in the shopping cart). Session cookies are removed when a user logs off or when the browser is closed. Persistent cookies are permanent files and must be deleted manually. Tracking or other information collected from persistent cookies or any session cookie is used strictly for the user's efficient navigation of the site.

Links - This site may contain links to other sites. The Academy is not responsible for the privacy practices or the content of such websites.

Children - This website is not designed or intended to attract children under the age of 13. The Academy does not collect personal information from anyone it knows is under the age of 13.

Elsevier: http://www.elsevier.com/wps/find/privacypolicy.cws_home/privacypolicy

Tumor necrosis factor—alfa levels are linked to disease severity in patients with inflammatory conditions, such as psoriasis. Inhibitors of this cytokine are commonly used with significant success in the treatment of such inflammatory disorders. Their use, however, can be plagued by infectious complications. An awareness of potential infections associated with these therapies is critical in order to maximize preventive efforts both before and during therapy. This review provides a guide for dermatologists caring for patients in need of this type of biologic therapy to preemptively address the infectious risks. Part II of this continuing medical education article reviews recommended screening methods for patients undergoing evaluations for tumor necrosis factor inhibitor therapy for psoriasis or other dermatologic diseases, and discusses possible prophylactic strategies to use, including the appropriate use of immunizations. (J Am Acad Dermatol 2014;71:11.e1-7.)

Key words: biologic therapy; immunizations; opportunistic infection; psoriasis; tumor necrosis factor.

SCREENING AND PROPHYLAXIS: "WHAT TO DO"

Key points

- **Tuberculosis reactivation is a well-recognized potential complication of tumor necrosis factor inhibitor therapy, and screening for latent tuberculosis should occur at baseline and yearly**
- **Certain patient populations may benefit from the use of an interferon gamma release assay instead of a purified protein derivative for tuberculosis screening**
- **Screening for endemic mycoses is controversial and should only be considered in patients with an appropriate epidemiologic exposure history**
- **A review of vaccination history before the initiation of tumor necrosis factor inhibitor therapy is a critical part of the baseline evaluation in order to determine need for additional vaccination**

Recommended screening strategies for patients receiving tumor necrosis factor inhibitor therapy are shown in Table I.

Tuberculosis

Perhaps the best-described infectious complication associated with tumor necrosis factor inhibitors (TNFIs) is tuberculosis (TB). Beginning in 2002, recommendations for screening and potential treatment of latent TB infection were implemented. Adherence to these guidelines later caused a significant decrease in the rates of TB in a population of infliximab-treated patients.[1] The Centers for Disease Control and Prevention (CDC) recommend TB testing before starting treatment with TNFIs.[2] Most of the initial recommendations involve using a tuberculin skin test (TST) for the diagnosis of latent TB infection (LTBI). Using a boosted TST (2-stage TST) has led to increased LTBI detection in these patients.[1] Over the last few years, interferon gamma release assays (IGRAs) have been increasingly used to diagnose LTBI, and available data suggest that their performance is not inferior to TSTs. The benefits to using this test as a screening tool include ease of testing (ie, no follow-up visit required, less subjectivity in interpreting results) and increased specificity in patients previously given Bacillus-Calmette-Guérin (BCG) vaccine.[3] There are limited data in patients receiving TNFIs, and the test's ability to detect LTBI compared to TSTs has yet to be comprehensively evaluated in this population. One small retrospective study in the psoriasis population, however, advocates for using IGRA over TST given its stronger association with LTBI diagnosis, but it is important to note that 90% of the patients in the study had a previous BCG vaccination[4]—a population in which IGRAs are known to be more specific. Certain patients undergoing evaluation for TNFI therapy may warrant the use of an IGRA over a TST, such as those who have a history of BCG vaccination or those who are less likely to return for repeat examination.

Histoplasmosis

In terms of the existing data regarding endemic mycoses, histoplasmosis is the best studied in the setting of TNFI therapy. Initially, there was some speculation regarding potential screening for this infection before the initiation of biologic therapy

From the Department of Medicine,[a] Division of Infectious Diseases, and the Department of Dermatology,[b] University of Connecticut Health Center, Farmington.

Funding sources: None.
Conflicts of interest: None declared.

Correspondence to: Jane M. Grant-Kels, MD, University of Connecticut Health Center, Department of Dermatology, 21 South Rd, Farmington, CT 06032. E-mail: grant@uchc.edu.

0190-9622/$36.00