

## JOINT DECISIONS

At the time of the MRI, the patient's findings were considered to be most consistent with a viral myositis or Guillain-Barré syndrome, reported Kristina P. Callis, M.D., a dermatology resident at the University of Utah Health System in Salt Lake City.

In addition, a painful nodule in his left thigh with overlying erythema was diagnosed as thrombophlebitis. He was referred to dermatology 4 months later with scrotal ulcers and follicular papules and pustules elsewhere on his skin.

The scrotal ulcers and varied skin lesions developed 6 weeks after the onset of myositis. A skin biopsy from a scrotal ulcer showed the destruction of venule-like vascular structures and an interstitial inflammatory response of neutrophils; a muscle biopsy from the calf showed scattered atrophic muscle fibers and foci of perivascular infiltrate of chronic inflammatory cells consistent with an active myopathy.

The differential diagnosis initially included Behçet's syndrome, syphilis, Crohn's disease, pyoderma gangrenosum, other vasculitides,

or other infections, Dr. Callis said.

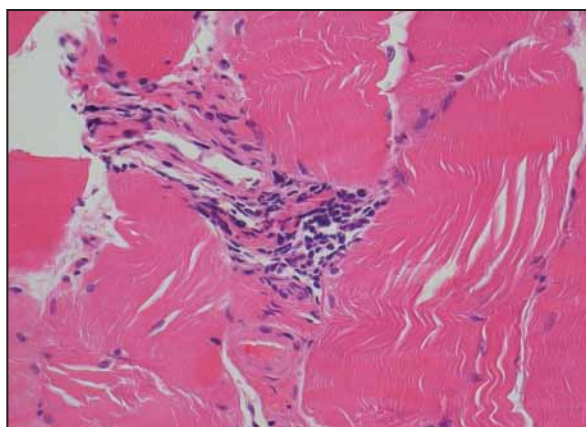
The patient had no gastrointestinal, CNS, visual, or urinary symptoms. He had minimal joint symptoms (knee arthralgias), and—although he initially denied oral ulceration—the appearance of an oral ulcer clinched the diagnosis of Behçet's syndrome.

The International Study Group criteria for Behçet's syndrome requires recurrent oral ulceration at least three times per year, plus any two of the following: recurrent genital ulceration; eye lesions (uveitis, cells in the vitreous, or retinal vasculitis); cutaneous lesions (erythema multiforme, papulopustular lesions, pseudofolliculitis, or acneiform nodules); or a pathergy test interpreted at 24-48 hours.

Myositis is a rare presentation of Behçet's syndrome, having been reported only 11 times in the English literature, according to Dr. Callis.

The patient was started on 60 mg of prednisone daily, with both the scrotal ulcers and myositis resolving. However, because of the long-term side effects of prednisone, other therapies including colchicine were under consideration at the time of the case report.

—Kate Johnson



A biopsy of the calf muscle showed atrophic fibers and inflammatory cells consistent with myopathy.



Criteria for Behçet's syndrome requires recurrent oral ulceration at least three times per year.

## INDEX OF ADVERTISERS

|                                                   |                          |
|---------------------------------------------------|--------------------------|
| <b>Abbott laboratories</b>                        |                          |
| Humira                                            | 5-7                      |
| <b>Actelion Pharmaceuticals US, Inc.</b>          |                          |
| Tracleer                                          | 24a-24b, 25              |
| <b>Barr Laboratories, Inc.</b>                    |                          |
| Trexall                                           | 28-30                    |
| <b>Boehringer Ingelheim Pharmaceuticals, Inc.</b> |                          |
| Mobic                                             | 19-21                    |
| <b>Centocor, Inc.</b>                             |                          |
| Remicade                                          | 12a-12h, 13, 44a-44h, 45 |
| <b>Daiichi Pharmaceutical Corporation</b>         |                          |
| Evoxac                                            | 11-12                    |
| <b>Genentech, Inc.</b>                            |                          |
| Rituxan                                           | 38-39                    |
| <b>INOVA Diagnostics, Inc.</b>                    |                          |
| Corporate                                         | 15                       |
| <b>McNeil-PPC Inc.</b>                            |                          |
| Tylenol                                           | 43                       |
| <b>Merck &amp; Co., Inc.</b>                      |                          |
| Fosamax                                           | 40a-40d, 41              |
| <b>Ortho Biotech Products, L.P.</b>               |                          |
| OrthoVisc                                         | 23-24                    |
| <b>Pfizer Inc.</b>                                |                          |
| Arthrotec                                         | 32a-32b                  |
| <b>PMB Pharmaceuticals</b>                        |                          |
| Animi-3                                           | 47-48                    |
| <b>Rexall Sundown, Inc.</b>                       |                          |
| Osteo Bi-Flex                                     | 27                       |
| <b>Sepracor Inc.</b>                              |                          |
| Lunesta                                           | 9                        |
| <b>STADA USA, Inc.</b>                            |                          |
| Rheumatrex                                        | 34-36                    |
| <b>Wyeth Pharmaceuticals Inc.</b>                 |                          |
| Enbrel                                            | 16a-16b, 17, 54-56       |

# Computerized Prescribing Could Cut Errors Multiple Ways

BY JOYCE FRIEDEN

Associate Editor, Practice Trends

WASHINGTON — Computerized prescribing could greatly reduce the number of medical errors, especially when it comes to adverse drug events, David Bates, M.D., said at a consensus conference sponsored by the American Association of Clinical Endocrinologists.

In his own health care research at Brigham and Women's Hospital in Boston, where he is chief of general medicine, Dr. Bates and colleagues looked at more than 10,000 medication orders and found 530 errors, an average of 1.4 per hospital admission. Included among those were 35 potential adverse drug events and five preventable adverse drug events.

These data suggest that "about 1 in 100 medication errors results in an [adverse drug event], and 7 in 100 have the potential to do so," said Dr. Bates, who also serves as medical director of clinical and quality analysis at Partners HealthCare, in Boston.

When do the errors occur? In another study, Dr. Bates and colleagues found that about half of prescribing errors (49%) occur at the ordering stage, followed by 26% at the administration stage, 14% at the dispensing stage, and 11% at the transcribing stage.

Although transcribing accounted for the smallest percentage of errors, it can still be a big problem. Dr. Bates showed a sample of a handwritten prescription for Avandia (rosiglitazone) that was mistakenly dispensed as Coumadin (warfarin). Such problems could be reduced or eliminated by the use of prescribing software, Dr. Bates said.

Ambulatory care settings are particularly ripe for prescribing errors, for several reasons, he said. "There is a long feedback loop, because often you don't hear from patients for a long time, and there are limited resources and redundancy," he said. In addition, "the average primary care encounter is 12 minutes, and the average time to the first interruption is 18 seconds. And 75% of patients leave with unanswered questions."

He cited a study by Tejal K. Gandhi, M.D., and colleagues showing that of 661 outpatients, 162 (25%) had adverse drug events, for a total of 181 events. Of those, 13% were serious and 11% were preventable

(N. Engl. J. Med. 2003;348:1556-64).

Computerized prescribing can reduce errors in several ways, Dr. Bates said:

- ▶ Preventing errors from occurring in the first place.
- ▶ Catching them more quickly after they have occurred.
- ▶ Tracking the errors themselves.
- ▶ Providing feedback.

Dr. Bates called computerized prescribing the "single most powerful intervention for improving medication safety to date" and noted that errors could be reduced by more than 80% in some cases.

However, computerized prescribing will only work if the people using it fol-

low all the rules, he continued. For example, at Brigham and Women's Hospital, researchers looked at more than 7,700 drug allergy alerts that were issued by the computer over a 3-month period in 2002 and found that the alerts were overridden 80% of the time. This may have been because only 6% of the alerts were triggered by an exact match between the drug ordered and a drug on the allergy list, Dr. Bates said.

In addition to drug allergies, a good computerized prescribing system should also alert physicians to drug-drug interactions, renal dosing issues, geriatric dosing issues, and dose ceilings, according to Dr. Bates.

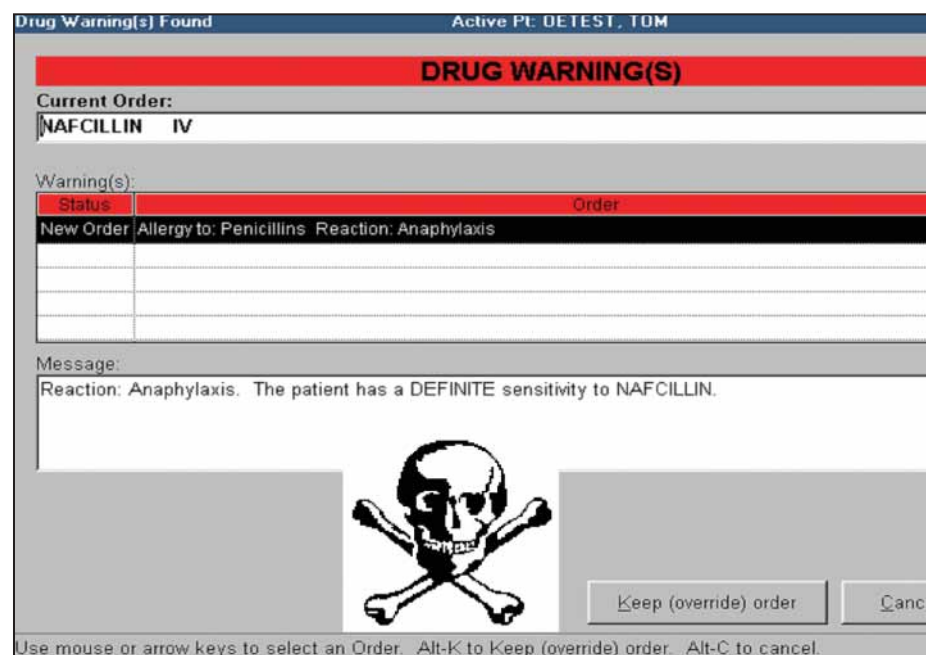
And it should have a way to alert physicians to potentially fatal interactions.

As to the future of computerized prescribing, Dr. Bates predicted a time when all physician drug orders would be sent electronically to the pharmacy, where the pharmacist would review them. Simple orders might be filled and dispensed from an ATM-like machine, he added.

In addition to all the safety issues, there is another reason physicians might want to consider electronic prescribing: More payers are starting to demand it, Dr. Bates said.

As an example, he cited the Leapfrog Group, an organization of 160 companies seeking to improve health care quality for their employees.

Leapfrog already uses computerized prescribing as a quality measure in the inpatient setting and is planning to include outpatient computerized prescribing in a new set of measures due out in 2006, Dr. Bates said. ■



Software systems could have a mechanism, such as the one above, to alert prescribers to potentially fatal allergies and drug-drug interactions.

COURTESY DR. DAVID BATES