LETTERS TO THE EDITOR

Regarding Our September Issue

To the Editor:

The case report in the September 2010 issue of *JUCM* (Promethazine-induced Tissue Necrosis: A Case Presentation, by Shailendra Saxena, MD, PhD, Naureen Rafuq, MD, Liji George, MD, Cara Olsen, PharmD, and Mikayla Spangler, MD) suggests an equally or probably more likely cause of the severe post-injection complication experience presented in the case.

As an emergency physician for 30 years, I am often distressed by the lack of adequate skin cleansing before giving IM injections or when starting IVs. My own observations of the usual pre-injection skin prep is that most nurses wipe the skin once or twice with a single alcohol pad, let it dry very briefly, then give the injection.

My own experience in doing first-step skin prep before various procedures such as LPs, arthrocentesis, trigger point injections, and the like shows me that almost everyone comes in with "grime" on their skin, regardless of how clean the skin may look or whether or not they have recently bathed.

This is proved by my own practice of moderately vigorously wiping the skin site with multiple alcohol pads and looking at each one before repeating with a fresh alcohol pad. In nearly all cases, the first few pads are stained with significant amounts of dark gray grime, but which gradually lighten and disappear after sufficient pads have been used.

Although I have not researched the literature, it seems to me that putting a needle through skin that still has a significant amount of grime on its surface (which it would by using only a single alcohol wipe for skin prep) is a set-up for introducing common skin flora/pathogens by the now-contaminated injection needle.

In the case study, my first impression was that it was much more likely that the promethazine injection needle introduced skin MRSA (already present on the patient's skin from the coexisting abscess and I&D) deep into the muscle where it set up housekeeping rather rapidly, leading to the subsequent described complications.

The importance of meticulous skin prep before an IM injection cannot be overstated when there is a coexisting skin infection anywhere else on the body.

Promethazine, prochlorperazine (Compazine), hydroxyzine (Vistaril), and several other common injections are well known to cause significant pain (usually burning) at the time of the injection. The severe burning going down the right thigh would suggest additionally that the injection was improperly placed (too near the sciatic nerve region). But local temporary burning would be expected.

It is true that promethazine has caused significant morbidity in certain cases, mostly related to extravasated IV routes; one must be careful to sort out other and perhaps more likely causes of significant IV/IM injection complications as suggested above.

Although promethazine may have caused some tissue damage in the deep tissues of the injection site, it is likely introduced MRSA that lead to such a severe complication in the case study above.

Tim Pangborn, MD
Mercy Medical Center, Redding CA

To the Editor:

The article about promethazine in the September *JUCM* had an unusual perspective. Seems like the patient more likely got inoculated with MRSA (he was being treated for a skin abscess) during that injection and developed necrotizing fasciitis from it, rather than direct toxicity from the promethazine itself. There has been some toxicity with that med (after zillions of doses) and the closing recommendations on page 26 are key. Who knows, once as many doses of ondansetron have been given as have been promethazine, there'll be some problems!

Joseph Toscano, MD
San Ramon (CA) Regional Medical Center
Urgent Care Center, Palo Alto (CA) Medical Foundation
(Dr. Toscano is also a member of the *JUCM* Editorial Board)

The authors respond: We sincerely appreciate the readers' comments on the promethazine-induced tissue necrosis article. We agree with the reviewer's comment that MRSA may have been inoculated in the patient's thigh during the time of promethazine injection. However, the clinical picture of the patient and the review of the literature led us to believe that the skin necrosis was secondary to the promethazine.