Clinical Spectrum of Urinary Tract Infections Due to Nontyphoidal Salmonella Species

SIR—In their analysis of 28 cases of bacteriuria due to nontyphoidal Salmonella species, Ramos et al. [1] stated that the majority of patients with this infection are severely immunocompromised or have structural urologic abnormalities. We believe there is considerable bias in their conclusions, as all of their cases came from a large teaching hospital. We contend that most patients with bacteriuria due to nontyphoidal Salmonella species do not have these underlying abnormalities.

We retrospectively reviewed the level of immunocompromise and the presence of structural urologic abnormalities in 23 patients with bacteriuria; nontyphoidal Salmonella species were isolated from all urine samples. Our laboratory serves both family practitioners caring for patients in the community and physicians caring for patients admitted to several large private hospitals in Queensland, Australia. Information on the patients was gained by written and verbal communication with the treating physician and by review of the hospital chart if the patient had been hospitalized or seen at a hospital clinic. These 23 patients represent all patients with bacteriuria due to nontyphoidal Salmonella whose urine samples were referred to this laboratory from April 1995 to March 1996. We isolate Salmonella species from ~450 specimens each year, the bulk of which are fecal samples.

All 23 patients had symptoms of urinary tract infection. All but four patients had definite laboratory evidence of urinary tract infection, including findings of >1,000 leukocytes and <10 epithelial cells per μL of urine and a viable count of >10^5 cfu/mL of urine. The mean age of patients with this infection was 35 years (range, 1–89 years). Seven of the patients were children. All but two of the patients were females. Two of the episodes resulted in hospitalization of the patient; the remainder of the patients were successfully treated as outpatients. The hospitalized patients were elderly women; one was admitted because of confusion, and the other was admitted because of unstable glycemia. One of the 23 patients had acute pyelonephritis, while the remaining 22 had symptoms of cystitis. Only one patient had concomitant bacteremia.

A diverse spectrum of serovars was observed. Salmonella birkenhead was isolated from 3 patients, Salmonella virchow from 2, and Salmonella muenchen from 2. The remaining patients were infected with other serovars. Most organisms were susceptible to inexpensive, commonly used antibiotics. Only one isolate was resistant to ampicillin, and two isolates were resistant to trimethoprim-sulfamethoxazole.

No patient in our series had HIV infection, had received an organ transplant, or had any other form of immunosuppression. Only 3 (13%) of the 23 patients had structural abnormalities of the urinary tract. A 19-year-old man underwent urologic investigations because of urinary tract infection and was found to have chronic pyelonephritis due to vesicoureteric reflex. A 20-year-old female with a history of recurrent urinary tract infections was found to have left pelvic-ureteric junction obstruction. A 31-year-old man had a left duplex collecting system.

Our data suggest that Ramos et al. and other investigators have overestimated the relationship between salmonella urinary tract infection and immunosuppression and structural abnormalities. Most likely, this overestimation is the result of bias due to referrals to tertiary care centers. We agree that men with salmonella urinary tract infections should undergo further urologic investigation. However, the isolated finding of Salmonella species in the urine of women most commonly represents uncomplicated cystitis and does not warrant further investigation.

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Reference


A Life-Threatening Adverse Reaction During Trimethoprim-Sulfamethoxazole Desensitization in a Previously Hypersensitive Patient Infected with Human Immunodeficiency Virus

SIR—Caumes et al. [1] reported a severe reaction to trimethoprim-sulfamethoxazole (TMP-SMZ) desensitization in an HIV-infected patient. Their report is an important reminder of a severe adverse drug reaction, but I suggest that the authors failed to discuss one of the more important aspects of this reaction: the close temporal association between the prior reaction to TMP-SMZ and the development of the severe reaction.

There have been many case reports have described anaphylactoid reactions to TMP-SMZ in HIV-infected patients over the years, but neither the epidemiology of nor the pathophysiological basis for the reaction have been systematically studied [2–7]. Consequently, while frequent but less severe allergic reactions to TMP-SMZ are widely appreciated, the severe reaction detailed in this report is not mentioned in the most widely read textbook on AIDS and is probably not generally recognized [8]. This is a matter of concern given that recognition of the syndrome can reduce unnecessary and potentially toxic treatment, that the incidence of the syndrome is probably not trivial, and that knowledge of the syndrome has important implications for the rechallenge of patients who have experienced a reaction to TMP-SMZ.

The similarity of this reaction to septic shock, as well as anecdotal evidence, suggest that the syndrome, while rare, may

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be significantly underreported. Caumes et al. accurately state that "the cardinal features of this reaction appear to be reexposure to the drug, erythematous rash, acute fever, intense pruritis, and hypotension." The similarity to septic shock undoubtedly contributes to underrecognition of the syndrome: patients who present with this syndrome will typically, and appropriately, be treated for septic shock; a correct diagnosis will be made only if a physician is aware of the syndrome and if a very careful drug history is obtained. Furthermore, informal discussions suggest that many clinicians have observed this syndrome, suggesting that it may be much more frequent than the case report literature suggests.

The aspect of the syndrome that Caumes et al. failed to discuss concerns the timing of the syndrome relative to the preceding TMP-SMZ reaction. Their claim that "to date, such reactions have been described only in hypersensitive HIV-infected patients rechallenged with TMP-SMZ" is not entirely true [5], although it is true of the majority of reports. These authors neglect to mention that the majority of reports also describe the onset of the reaction within days to weeks of the original hypersensitivity reaction [2–4, 6, 7]. The case they report occurred between 2 and 4 months after the initial reaction. I would suggest that this severe reaction to desensitization should not be taken as an argument against desensitization but rather as another example of the danger of rechallenge with TMP-SMZ, by any approach within several months of a prior reaction, in an HIV-infected patient.

The implication of the observation that reported anaphylactoid reactions to TMP-SMZ appear to occur largely within 2 months of a prior hypersensitivity reaction is obvious: desensitization should not be undertaken within several months of a prior reaction unless there is a pressing therapeutic need.

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References

Reply
SIR—I agree with Dr. Marsh’s comments that my colleagues and I failed to discuss the close chronological link between our patient’s prior reaction to trimethoprim-sulfamethoxazole (TMP-SMZ) and the onset of this anaphylactoid reaction [1]. This link was taken into account in the initial design of our desensitization protocol by excluding patients who had had a prior reaction within 6 weeks of study entry [2]. This period was chosen because in one review of 10 cases, severe reactions occurred when TMP-SMZ was reintroduced within 5 days to 5 weeks after the prior reaction [3]. Moreover, the majority of reports also describe the onset of reactions within several days to several weeks after the original hypersensitivity reaction. In the case we reported, the anaphylactoid reaction occurred 14 weeks after the initial episode. In such a case, desensitization should not be undertaken for at least 4 months after a prior reaction, while Dr. Marsh suggests “several” months.

I also agree that the frequency of this syndrome of anaphylactoid reactions is probably underestimated, although its similarity to septic shock is doubtful when erythematous rash and intense pruritus are present.

The occurrence of this syndrome should contraindicate further reintroduction of TMP-SMZ, although this view is challenged by the successful desensitization of six of eight patients who had experienced anaphylactoid reactions. It is noteworthy that Gluckstein and Ruskin performed desensitization a mean of 7 months (1–11 months) after their patient’s reactions [4]. In our desensitization study, however, the mean lag time between the initial reaction and the desensitization procedure was shorter in the group in whom the procedure failed (11 months) than in the group in whom it succeeded (17 months), but this difference was not statistically significant (P = .25) [1].

Finally, in previously hypersensitive patients (HIV infected or not), reintroduction of any drug (TMP-SMZ or others) by any approach (rechallenge or desensitization) within any time scale (weeks or months) is potentially dangerous. This is why TMP-SMZ should always be reintroduced carefully in previously hypersensitive HIV-infected patients.

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References
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