were within normal limits. A 2-dimensional echocardiogram showed normal ejection fraction and valvular function, without evidence of pericardial effusion. A cardiac event recorder showed normal sinus rhythm, with frequent episodes of trigeminy associated with symptoms of palpitations. Results of an exercise stress test were suboptimal but showed no evidence of inducible ischemia.

Therapy with atenolol produced fatigue, and verapamil was substituted. Since treatment with verapamil, a calcium channel blocker, was initiated, the frequency of palpitations has decreased. At the time of writing, it has been 12 weeks since the patient received the smallpox vaccine.

Historically, generalized vaccinia and encephalitis have been the most concerning complications associated with smallpox vaccination [1, 2]. In general, cardiac adverse events associated with smallpox vaccine or any other vaccine are rare [3, 5]. Although not proven, there has been a well-documented casual association between smallpox vaccine and "myopericarditis," a term referring to the presentation in patients of myocarditis, pericarditis, or both [4, 6]. This term has been used by the Centers for Disease Control and Prevention (CDC) for surveillance purposes to describe persons reported to have chest pain and electrocardiogram changes within 30 days after vaccination and without evidence of other causes [7]. Dysrhythmia may be a manifestation of inflammation within the myocardium or myocardial conduction system and has now been included in the case definition of myopericarditis [8].

Recently, significant cardiac events (angina and myocardial infarction) associated with coronary artery disease following smallpox vaccination have been reported. However, the causal connection has been difficult to confirm, because most of these patients had several preexisting risk factors for coronary artery disease [4]. Autopsy findings of reported fatalities failed to demonstrate disseminated vaccinia infection or myopericarditis [8].

There have been at least 7 cases of postvaccination cardiac dysrhythmia (supraventricular tachycardia, atrial dysrhythmias, and frequent or sustained premature ventricular contractions) reported to the CDC [7]. Most cases have been associated with clinical myopericarditis and have ranged from mild to severe, whereas several have been asymptomatic in nature [7].

Although our patient did not have overt signs of myopericarditis manifested by chest pain and ST segment changes, she did have a new onset of symptomatic palpitations after receiving the smallpox vaccine. In the absence of any other overt explanation, her symptoms may have been manifestations of mild or asymptomatic myopericarditis.

Persons receiving smallpox vaccine should be informed that myopericarditis may be associated with the vaccine and that medical attention should be sought for chest pain, shortness of breath, or other symptoms of cardiac disease. Because a casual relationship between smallpox vaccination and serious cardiac events cannot be excluded, the CDC guidelines recommend that patients with a history of cardiac problems should not receive the smallpox vaccine [4].

Timothy J. Whitman,[1] Michael A. Ferguson,[2] and Catherine F. Decker[1]

[1]Division of Infectious Diseases and [2]Department of Internal Medicine, Division of Cardiology, National Naval Medical Center, Bethesda, Maryland

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Reprints or correspondence: Dr. Timothy J. Whitman, Div. of Infectious Diseases, National Naval Medical Center, 8901 Wisconsin Ave., Bethesda, MD 20889-5000 (tjwhitman@bethesda.med.navy.mil).

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Evidence in the Treatment of Head Lice: Drowning in a Swamp of Reviews

Sir—We read with interest the article by Jones and English [1] entitled "Review of Common Therapeutic Options in the United States for the Treatment of Pediculosis Capitis." We would like to point out that there are currently no uniform guidelines on which a review of head lice treatment should be based, which has led to the publication of conflicting reviews in major medical journals, such as *Lancet, New England Journal of Medicine, British Medical Journal,* and *Cochrane Database of Systematic Reviews* (Cochrane Reviews) [2–6].

Two systematic reviews of the topical treatment of head lice with insecticides were published, one by Vander Stichele et al. [5] in 1995 and another in a Cochrane review by Dodd in 1999, which was later revised in 2001 [6]. The 2 reviews used different methodological approaches and had different results. We noticed that the current review by Jones and English [1] was based on the 1999 Cochrane review and that the earlier review by Vander Stichele et al. [5] was completely ignored.

The review by Vander Stichele et al. [5] identified 28 clinical trials, of which 7 met the inclusion criteria. They also identified 11 unpublished trials that compared the efficacies of permethrin and malathion [5]. Data from these trials were withheld by the manufacturer, thus causing an important publication bias.

The main conclusion in Vander Stichele et al. [5] was that there is only sufficient evidence available on the efficacy of permethrin and that evaluation of the efficacy of malathion and carbaryl requires more evidence. Lindane and natural pyrethrins were considered to have lacked sufficient efficacy [5].

The review by Jones and English [1] was based on the Cochrane review by Dodd [6], which was published in 1999 and revised in 2001. The objective of the Cochrane review was "to assess the effects of interventions in the treatment of head lice" [6]. Inclusion criteria for randomized controlled trails were the presence of live lice or "lice and eggs" (not just eggs alone) and the absence of treatment with any other pediculicide during the month preceding enrollment. An additional inclusion criterion was that lice and eggs should not be removed by combing after treatment with a pediculicide. The Cochrane review identified 71 trials, of which only 3 met the selection criteria—2 placebo-controlled trials by Taplin et al. [7, 8] and 1 comparative clinical field study by Burgess [9]. On the basis of the results of only 3 trials, the Cochrane review concluded that effectiveness was proven for permethrin, malathion, and synergized pyrethrins [6].

Many people who are working in this area are rather disappointed by the Cochrane review on head lice interventions [10]. Indeed, the 3 accepted trials were conducted in developing countries and involved populations who do not reflect infested patients in the United States or any other developed country, as was mentioned by Jones and English [1]. Furthermore, the definition of infestation that was used excluded several studies, because many researchers take it for granted that only patients with live lice or eggs are included in such studies. Every trial that did not explicitly mention this criterion was excluded, even if the inclusion of patients was properly done. The selection of trials and the assessment of quality can be heavily biased by personal communication. The Cochrane review also ignored 2 trials referenced in Vander Stichele et al. [5], and it still has not solved the publication bias mentioned above.

We also have remarks on the recommendation by Jones and English [1] to use formic acid to remove nits. This recommendation is based on a single study by DeFelice et al. [11], in which an "after-pediculicide nit removal system" (containing a formic acid cream rinse and a metal comb) was tested. Control and treated sites were combed with plastic and metal combs, respectively. The comb type alone (i.e., independent of the formic acid rinse) could account for the greater number of nits removed from the treated site.

Another important aspect in the treatment of head lice, which was not discussed in the review by Jones and English [1], concerns the bug-busting (i.e., wet-combing) method. The revised version of the Cochrane review states that bug busting is "ineffective" [6]. This conclusion is based on a trial by Roberts et al. [12]. In this pragmatic trial, the efficacy of bug busting was compared with that of malathion 0.5%. This study showed a cure rate of 78% for malathion and 38% for the bug-busting method. The authors jumped to the conclusion that "policies advocating bug-busting as first-line treatment for head lice infestations are inappropriate for the general population" [12, p. 543]. This conclusion is found repeatedly in new reviews on head lice treatments [4, 6]. However, until now, only 1 small efficacy trial with insufficient power, in which the efficacy of bug busting was compared with that of phenothrin lotion, has been performed [13]. Larger efficacy trials should yield valuable information. Conclusions about bug busting should not be based on the results of a pragmatic study, because every kind of treatment—chemical, as well as bug busting—can lead to bad results in a pragmatic study [14].

Other comments on the trial by Roberts et al. [12] are that its outcome depended on local resistance patterns to malathion. In regions where head lice are highly resistant to malathion, bug busting could perform better than the chemical treatment. Additional advantages of bug busting that were not taken into account include its low cost and the fact that it can be repeated over and over again without any side effects [15–17].

The bug-busting method cannot be written off because it was shown to be less effective than a chemical method in a pragmatic trial. An efficacy trial with sufficient power should be done first to determine the actual therapeutic value of bug busting.

We are also concerned about the way ivermectin is almost "promoted" as a quick fix for treating head lice in the review by Jones and English [1]. The reviewers should have adopted a more critical attitude toward the use of ivermectin for treating head lice. Head lice are still no official indication for the use of ivermectin, and nothing is known about the long-term effects of ivermectin in the battle against head lice.

The controversy on the interpretation of research on head lice treatment was discussed during the 2nd International Congress on Phthiraptera (Brisbane, Australia) in July 2002, but, unfortunately, no criteria for conducting quality trials and performing systematic reviews were formulated. Although the debate is ignored in scientific literature, the need for a uniform reference standard on the basis of which reviews on the treatment of head lice can be conducted still stands.

It is our opinion that a review should be a critical analysis of all available information. All evidence should be taken into account, including that from published and unpublished trials. It is high time for an international group of experts to define

a set of criteria that can be used to evaluate results of clinical trials before they are included in a review. A high-quality review on head lice treatment is what many practitioners need, instead of the current swamp of reviews of disputable quality.

H. Lapeere,[1] R. H. Vander Stichele,[2] and J.-M. Naeyaert[1]

[1]Department of Dermatology, Ghent University Hospital, and [2]Heymans Institute of Pharmacology, Ghent University, Belgium

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Reprints or correspondence: Dr. H. Lapeere, Dept. of Dermatology, University Hospital Ghent, De Pintelaan 185, 9000 Ghent, Belgium (hilde.lapeere@Ugent.be).

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Low Antibiotic Resistance in Respiratory Pathogens in a Remote Area in Southern Sudan That Was Isolated by Civil War for 18 Years

Sir—We obtained 120 nasopharyngeal swab samples from outpatients with symptoms of respiratory infection within a 5-day period at a rural hospital in Mapuordit, a remote area in southern Sudan where there are ~50,000 refugees from the civil war. This is the only hospital in an area similar in size to Slovakia (~50,000 km^2), and it serves 80–100 outpatients and 60 inpatients daily in 4 bed departments. The hospital had been isolated until the year 2000 because of 18 years of civil war in south Sudan; in that area, there had been no access to health care and medication.

Collected samples were immediately cultured on transport medium (Difco, Oxoid) and were transported by air within 24 h to the Reference Laboratory of Antibiotic Resistance (University Hospital Nitra, Slovakia). Of 120 swabs, 117 were positive for a bacterial pathogen, as follows: *Staphylococcus aureus,* 19%; *Staphylococcus pyogenes,* 12%; *Streptococcus pneumoniae,* 7%; *Klebsiella pneumoniae,* 9.8%; *Moraxella catarrhalis,* 9.8%; *Haemophilus influenzae,* 9.8%; *Flavobacterium violaceum,* 5%; and *Neisseria flavescens,* 15%.

The following was also noted: 0% of pneumococci were resistant to penicillin or erythromycin, 0% of *S. pyogenes* strains were resistant to erythromycin, and 0% of *H. influenzae* strains were resistant to ampicillin. The absence of antibiotic resistance in this small, 5-day, pilot surveillance study can be explained by the isolation of the area resulting from 18 years of civil war, total lack of infrastructure and communication systems, and absence of antibiotics, even as over-the-counter drugs. Furthermore, until the year 2000, no health care at all was available in the area.

Andrea Doczeova, Anne Liskova, and Vladimir Krcmery, Jr.

Diocese of Rumbek Hospital of Trnava, Mapuordit, Sudan; and Reference Laboratory of Antibiotic Resistance, University Hospital Nitra, Slovakia

Reprints or correspondence: Dr. Vladimir Krcmery, Jr., Dept. of Clinical Pharmacology, St. Elisabeth Cancer Institute, University of Trnava School of Health, Heydukova 10, Bratislava, 812 50, Slovakia Republic (vladimir.krcmery@spamba.sk).

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