Letters to the Editor

Chickenpox in 'Immune' Hospital Employees

To the Editor:

We read with interest the letter to the editor from Gurevich et al (1990;11(10):510-512) regarding chickenpox in apparently immune hospital employees. Over the past two years, we have had similar experiences involving two healthcare workers in our 500-bed university-affiliated hospital. In each case, one a nurse and one a pediatric resident, screening had been performed by an indirect fluorescent antibody (IFA) method (VZ Test Kit, Zeus Scientific, Branchburg, New Jersey). Sera were reactive at a dilution of 1:10, which was considered reflective of pm-existing immunity. Both employees subsequently developed chickenpox, the diagnoses of which was confirmed by at least one member of the infectious diseases division.

We can offer no plausible hypothesis to account for these occurrences beyond those put forth by Gurevich and colleagues. Since neither of the employees had a history of chickenpox and the diagnoses were reliable, it seems most likely that the "positive titers" were, in fact, "false-positives," either due to cross-reactions with antibodies to closely related viruses or an inherent lack of specificity in the test kit.

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MRSA in Long-Term Skilled Nursing Facilities

To the Editor:

In three long-term skilled nursing facilities in Los Angeles, California, there has been an increased awareness of methicillin-resistant Staphylococcus aureus (MRSA) in infected as well as colonized patients. We are using the approved Centers for Disease Control as well as Los Angeles County Department's recommendations for contact isolation. In three cases, two died and one required transfer to an acute-care hospital. What precuations are needed for removing the expired patients on transfer to the mortuaries when one had large stage 4-dimensions decubiti, and the other had both eye and urinary tract MRSA infection?

Harry J. Silver, MD
Los Angeles, California

This letter was referred to Ian M. Smith, MD, Professor and Director, Geriatric Program, Department of Internal Medicine, and Director, Iowa Geriatric Education Center, The University of Iowa Hospitals and Clinics, Iowa City, Iowa, ***for a reply.***

This question revolves around contact isolation control of infection and preventing dissemination of the infection in the long-term care facility and the mortuary. *Staphylococcus aureus* is a very successful parasite. It frequently breaks out from the hygienic and antibiotic control imposed upon it by humans. It spreads faster in institutions than it does in the general community. The primary source of the organism is the anterior nares of men and women, and it is transfered usually by hand contact. In the late 1930s, S *aureus* became resistant to the sulfonimides, and in the late 1940s, to penicillin G. In 1961, methicillin-resistant S *aureus* (MRSA) was described, and in the 1970s, a methicillin-resistant organism also resistant to the aminoglycosides was described.

Sometimes this organism is difficult to identify because it may be a small subpopulation within a sensitive group of *S aureus.* Identification is on a high-salt medium that is incubated for at least 24 hours at 30°C. The medium should contain nafcillin or oxacillin, which is more stable than methicillin. Careful attention to detail is necessary in the laboratories surveying for this organism.

Various surveys in nursing homes have shown that 5% to 15% of patients are colonized or infected, although higher figures have been quoted. The colonization rate is about four times as high as it is in the community. Colonization may be twice as high in the residents as it is in the staff, being approximately 12% and 7%, respectively. Risk factors for being colonized or infected with MRSA are the passage of nasogastric tube, the random use of several antibiotics, discharge from an acute-care setting (particularly from an intensive care unit), having burns, being elderly, having surgical wounds, or having venous access sites. In some studies, about one-half of the carriers have had significant illness due to their S ***aureus.*** Acquisition is usually in the acute-care hospital, but

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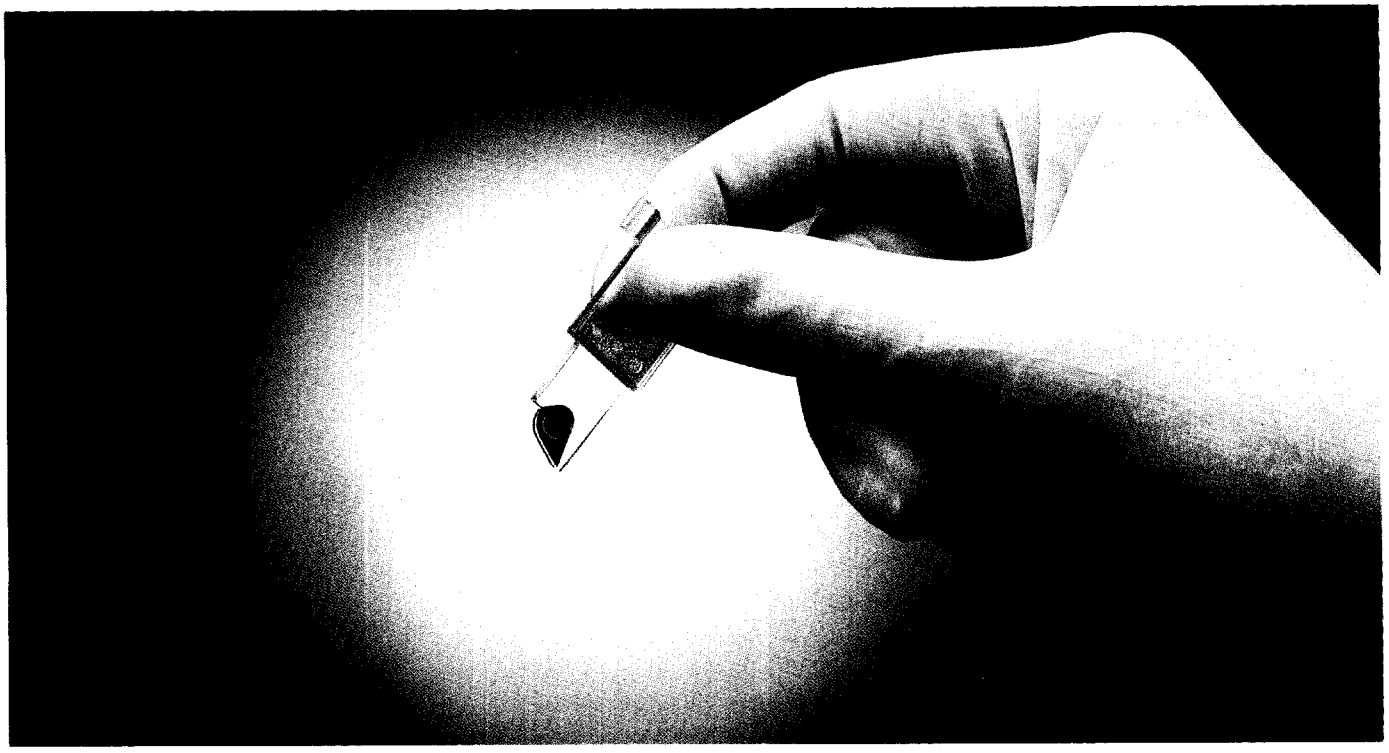

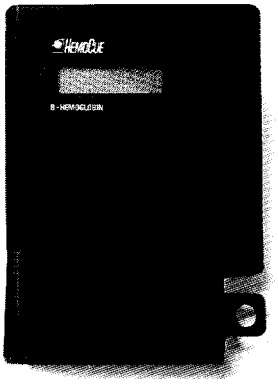

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it can be in the community, particularly from drug abusers. The organism colonizes all types of healthcare personnel in the long-term care unit, but especially physicians and nurses. Environmental contamination is uncommon.

Environmental control is the usual means for controlling any infectious disease. It is based on surveillance and on an accurate knowledge of the presence of carriers and infected cases. Scrupulous handwashing is necessary. Special high-risk patients can be identified and can be nursed in separate rooms. When an acute infection occurs, strict isolation in a single room is necessary. Carriers who can be discharged to home should be sent there. Healthy people are less risk for contamination. A system of cohort admissions is recommended. New employees should be screened because some of them may be moonlighting in acute-care facilities. Decontamination of inanimate objects is probably best done with phenolics. The MRSA strains tend to be resistant to acradine and quaternary ammonium compounds, including chlorhexadine, but not to hexachloraphine.

Carriers are primarily temporary carriers related to nasal carriage and hand transfer. Their treatment is difficult but has been tried with various compounds like bacitracin, rifampin, and mupirocin. All the organisms may seem to be sensitive to clindamycin and chloramphenicaol, but these are generally ineffective.

The treatment of an established infection is with vancomycin. This is inconvenient to give, as it is intravenous and has to be done twice a day. It is also toxic and expensive. It has been suggested, however, that MRSA is a very expensive infection for any institution, costing up to hundreds of thousands of dollars per year for an acute-care institution. Therefore, the control of outbreaks is worthwhile and prevention is important.

In summary, a careful surveillance program is indicated. Reinforcement of routine hygienic measures among the personnel, and identification and isolation of susceptibles as well as those infected is indicated. Phenolic compound terminal disinfection also is indicated.

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Letters to the Editor should be addressed to INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY Editorial Offices, C41 General Hospital, University of Iowa Hospitals and Clinics, Iowa City, IA 52242. All letters must be typed, double spaced, and may not exceed four pages nor include more than one figure or table. The editors reserve the right to edit for purposes of clarity or brevity.

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