J Epidemiol 1976;103:251-260.
13. Gross PA, Beaugard A, Van Antwerpen C. Surveillance for nosocomial infections: can the sources of data be reduced? *Infect Control* 1980;1:233-236.
14. Glenister H, Taylor L, Bartlett C, Cooke M, Sedgwick J, Leigh D. An assessment of selective surveillance methods for detecting hospital-acquired infection. *Am J Med* 1991;91(suppl 3B):121S-124S.
15. Ford-Jones EL, Mindorff CM, Pollock E, et al. Evaluation of a new method of detection of nosocomial infection in the pediatric intensive care unit: the infection control sentinel sheet system. *Infect Control Hosp Epidemiol* 1989;10:515-520.
16. Holtz TH, Wenzel RP. Postdischarge surveillance for nosocomial wound infection: a brief review and commentary. *Am J Infect Control* 1992;20:206-213.
17. Nettleman MD, Nelson AP. Adverse occurrences during hospitalization on a general medicine service. *Clinical Performance and Quality Health Care* 1994;2:67-72.
18. Emori TG, Culver DH, Horan TC, et al. National Nosocomial Infections Surveillance (NNIS) System: description of surveillance methods. *Am J Infect Control* 1991;19:19-35.
19. Nosocomial infection rates for interhospital comparison: limitations and possible solutions. *Infect Control Hosp Epidemiol* 1991;12:609-621.
20. Garner JS. Guideline for prevention of surgical wound infections, 1985. *Am J Infect Control* 1986;14:71-80.
21. Haley RW, Culver DH, Morgan WM, White JW, Emori TG, Hooten TM. Identifying patients at high risk of surgical wound infection. *Am J Epidemiol* 1985;121:205-215.
22. Culver DH, Horan TC, Gaynes RP, et al. Surgical wound infection rates by wound class, operative procedure, and patient risk index. *Am J Med* 1991;91(suppl 3B):152S-157S.
23. Roy MC, Herwaldt LA, Embrey R, Kuhns K, Wenzel RP, Perl TM. Does the NNIS risk index (NRI) predict which patients develop wound infection (SWI) after cardiothoracic (CT) surgery? In: Program and abstracts of the 34th Interscience Conference on Antimicrobial Agents and Chemotherapy; October 4-7, 1994; Orlando, FL. Abstract 209.
24. Roy MC, Herwaldt LA, Embrey R, Kuhns K, Perl TM. A 3-year wound surveillance study in cardiothoracic (CT) surgery. In: Program and abstracts of the 34th Interscience Conference on Antimicrobial Agents and Chemotherapy; October 4-7, 1994; Orlando, FL. Abstract J205.
25. Morales E, Herwaldt L, Embrey R, et al. The epidemiology of saphenous vein harvest site wound infections (SVHSI) after cardiothoracic surgery. In: Program and abstracts of the 33rd Interscience Conference on Antimicrobial Agents and Chemotherapy; October 17-20, 1993; New Orleans, LA. Abstract 64.
26. Perl TM. Surveillance, reporting, and use of computers. In: Wenzel RP, ed. *Prevention and Control of Nosocomial Infections.* 2nd ed. Baltimore, MD: Williams & Wilkins; 1993.
27. Crossley K, Johnson J, Mudge R, Crossley L. An evaluation of autopsy review as a technique for infection control: a procedure of questionable value. *Infect Control* 1983;4:29-30.

First Isolate of Vancomycin-Resistant *Staphylococcus aureus*—Japan

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The first known isolate of *Staphylococcus aureus* resistant to vancomycin (VRSA) has been reported from Japan. The CDC received the strain from Dr. Keiichi Hiramatsu of Jutendo University in Tokyo, Japan, and confirmed the isolation of a strain of *S aureus* with a vancomycin minimum inhibitory concentration (MIC) of 8 µg/mL (broth microdilution). The disk diffusion zone size was 18-19 mm (considered intermediate resistance by the National Committee for Clinical Laboratory Standards). It is a methicillin-resistant *Staphylococcus aureus* (MRSA) strain that is susceptible to synercid and arbekacin (a drug used in Japan) but few other drugs. It was isolated from a surgical-site infection (undrained abscess) of a 4-month-old boy who had surgery to correct pulmonary atresia and been treated with vancomycin for 29 days without improvement. The child developed purulent discharge after surgery, MRSA was isolated, and the child was given vancomycin plus arbekacin, with healing of the wound. Ten days later, fever developed, and a subcutaneous abscess was found; ampicillin-sulbactam was added to his regimen. He improved, but relapsed and developed an abscess at the surgical site 12 days post-therapy. Additional therapy with arbekacin and ampicillin-sulbactam, along with drainage of the abscess, cleared the infection. The baby was discharged and apparently has been well since.

Similar MRSA strains (by pulsed-field gel electrophoresis), although with vancomycin MICs of only 2-4 µg/mL, have been seen in several hospitals in Japan. In Japan, screening on brain-heart infusion agar with 4 µg/mL of vancomycin, held for 48 hours at 37°C, reveals growth of strains that have post-induction MICs of 4-8 µg/mL. In other words, strains with initial vancomycin MICs of 2-4 jump to 4-8 after exposure to vancomycin. The strain received by the CDC from Japan had a stable MIC of 8.

Dr. Hiramatsu describes this strain as "homoresistant" and the others as "heteroresistant" to vancomycin, much like oxacillin. The strain described above, called Mu-50, is negative for *van*A, *van*B, *van*C1, *van*C2, and *van*C3. The mechanism of resistance is unknown. Dr. Fred Tenover from the CDC made the following points about this VRE isolate: "First, such strains have not yet been recognized in the United States, and, second, the organism was obtained from an undrained abscess; if this strain were present in the blood, normal doses of vancomycin should have been effective in eliminating it."

Rather than VRSA, the CDC is calling this VISA because of its intermediate resistance to vancomycin. Infectious disease experts have commented that this may not have been a treatment failure, but rather a failure to drain an abscess, because the infection resolved after drainage. This case is scheduled for publication in the July 1997 issue of *Antimicrobial Chemotherapy* and in the *MMWR* in August. The CDC currently is working on a draft guideline for hospitals on the control of VRSA; however, this draft has not yet been approved by the CDC's Hospital Infection Control Practices Guidelines Committee.

FROM: Tenover F. Letter to microbiologists published on ASM's Clinmicronet (clinmicronet@asmusa.org), May 27, 1997; and the article "Staph germ resists potent drug." *Chicago Tribune* May 27, 1997; section A.