

Letters to the Editor

Pseudoinfection of a Total Knee Arthroplasty

To the Editor:

We were very interested in a recent report by Quale and Reese regarding pseudoinfection of prosthetic hip implants.¹ The references cited were inclusive and documented the varied kinds of situations in which pseudoepidemics occur as well as the potentially significant consequences of such events.

A similar situation recently occurred in our institution, suggesting that contamination of transport media/swabs may be much more common than currently is appreciated.

A 76-year-old woman with degenerative arthritis had left total knee arthroplasty in July 1992, without complication. On October 14, 1992, she fell backward while at home and incurred a lateral subluxed patella. Conservative measures failed and she was admitted on December 14, 1992, with dislocating left patella, and underwent lateral retinacular repair and revision of the patellar component of the total knee. Her leukocyte count was 6,100 with 59% neutrophils, the erythrocyte rate was 40, and urinalysis showed 5 to 10 white cells per high-power field; urine culture was negative. Pathologic examination demonstrated grossly unremarkable orthopedic prosthetic material and fragments of soft tissue. Gram stain of swab from the deep tissues placed in transport media showed many neutrophils, many red cells, and few (2 to 3/hpf) slender gram-negative rods. Aerobic and anaerobic cultures showed no growth. Following telephone report of the gram stain, with culture still pending, the patient was treated with oral ciprofloxacin. Immediate epidemiologic investigation was requested by the orthopedic surgeons, who found no evidence of infection at surgery and therefore were inclined to disbelieve the gram stain report.

The original slide was reviewed, and the presence of gram-negative organisms was documented. The original swab still was available, and the lot number was identified. Unopened

unused transport media from the same lot number were obtained from surgery and gram stained after plunging the swab into the media. Gram stains were positive for gram-negative rods from that lot number and two additional randomly selected lot numbers.

We initiated the following procedure: a) notified the department of surgery; b) removed all contaminated lot numbers and used only lots with no evidence of contamination; c) notified the supplier and changed supplier; and d) instituted routine screening gram stain on each new lot of transport media purchased for use in the operating room from the new supplier.

Because prosthetic joint infections frequently are indolent, time is available to rule out pseudoinfection and to be sure that any aggressive surgery required is undertaken primarily for orthopedic reasons and not because of infection that may not exist. If surgery is undertaken for any reason, tissue cultures should be obtained directly without using swab/transport media.

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REFERENCE

1. Quale JM, Reese D. Pseudoinfection of prosthetic hip implants. *J Infect Dis* 1992;165:981-982.

The 'Roving Team': Employee Health Service in the Workplace

To the Editor:

Employee health screening for and prevention of occupationally-acquired infectious diseases is an essential part of hospital infection control. Screening and prevention measures for hospital employees are mandated by a number of groups, including the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), Occupational Safety and Health Administration (OSHA), state health departments, and

individual hospital infection control committees and employee health services (EHS).

In our hospital, a 950-bed public hospital with more than 6,000 employees, compliance with mandated infection control screening has been difficult to obtain. All employees at our hospital have a pre-employment physical examination, tuberculin skin test (TST), and infectious disease serologic survey, including rubella, measles, varicella and hepatitis B serology. Thereafter, hospital policy dictates annual TSTs for TST negative employees who have occupational exposure to tuberculosis, and hepatitis B serology for employees who are antibody negative with occupational exposure to blood or body fluids. Complying with mandated infection control screening required a minimum of two, and as many as five, visits to the EHS and phlebotomy laboratory annually. The hospital offered free annual influenza vaccination to all employees, and since 1989, free hepatitis B vaccination to all employees with potential occupational exposure to hepatitis B.

Despite the importance of these screening and prevention measures, we estimated that only 15% of our employees had complete serologic results in their EHS medical records. As few as 100 employees received the influenza vaccine annually. Reasons for noncompliance included employee reluctance to accept employer intervention in healthcare, staffing constraints on patient care wards, staffing constraints in the EHS, delays in the phlebotomy laboratory (patients and employees used the same service), knowledge deficits about the benefits of vaccination, and lack of a mechanism to enforce employee participation. Although all new employees were required to present evidence of having completed the physical examination portion of the evaluation before being placed on the payroll, they were not required to have blood drawn for serology or to return to EHS after 48 hours for TST interpretation. There was no mechanism to enforce annual re-screening.