unwise and unethical "don't ask, don't tell, don't test" approach). The current controversy surrounding the reportedly proficient and prolific HCV-infected cardiovascular surgeon in Long Island, New York,[7] exemplifies these conundrums and compels us to ask ourselves how we should manage such events ethically and fairly.

Additional dilemmas include the current double standard that the surgeon must protect the patient's confidentiality and may be obligated to operate on an infected patient, but the patient is not prohibited from disclosing the surgeon's status publicly and choosing another surgeon. Disability coverage for the infected surgeon is usually suboptimal, another barrier to disclosure. Also, there is no simple answer to treating intraoperatively exposed patients unless the surgeon immediately discloses the exposure and allows his blood-borne pathogen status to be determined, both unlikely events in today's climate. This means that patients are frequently put at risk without the benefit of notification, testing, and therapy when appropriate.

Although postexposure treatment of healthcare workers as mandated by the Occupational Safety and Health Administration has been well established and recommendations for protecting healthcare workers have been updated by the CDC,[8] most hospitals have yet to accept responsibility for protecting patients to the same degree when exposures occur. They should establish *patient* postexposure treatment procedures (including baseline and follow-up testing and prophylactic and curative therapy similar to that provided for healthcare workers[5]). Hospitals could opt to notify patients of an intraoperative exposure without revealing which member of the surgical team is infected, while providing for the exposed patient's postexposure medical needs.

In general, we should apply patient-to-surgeon exposure management principles to any surgeon-to-patient exposures, including notification, baseline and follow-up testing, and any appropriate postexposure prophylaxis, treatments, or both. HCV is clearly transmissible in both directions between patients and surgeons and should be added to the 1991 CDC guidelines for protecting patients from infection by surgeons infected with blood-borne viruses. There remain several complex unanswered questions, which should also inspire more aggressive investigation.

REFERENCES

1. Center for Disease Control. Recommendations for preventing transmission of human immunodeficiency virus and hepatitis B virus to patients during exposure-prone invasive procedures. *MMWR* 1991;40(RR-08):1-9.
2. Centers for Disease Control and Prevention. Recommendations for prevention and control of hepatitis C virus (HCV) infection and HCV-related chronic disease. *MMWR* 1998; 47(RR-19):1-39.
3. Ball R. Increased risks to health care workers from hepatitis C virus. Presented at the International Conference on Emerging Infectious Diseases; July 18, 2000; Atlanta, GA. Abstract #ICEID-A-020678, Poster #120.
4. National Institutes of Health. *Consensus Statement: Management of Hepatitis C.* Bethesda, MD: National Institutes of Health; 1997.
5. Jaeckel E, Cornberg M, Wedemeyer H, et al. Treatment of acute hepatitis C with interferon-alfa-2b. *N Engl J Med* 2001;345:1452-1457.
6. Esteban JI, Gomez J, Martell M, et al. Transmission of hepatitis C virus by a cardiac surgeon. *N Engl J Med* 1996;334:555-560.
7. Rabin R. Seeking a legal remedy; patient to sue heart surgeon he says gave him hepatitis C. *Newsday* April 12, 2002;A02.
8. Centers for Disease Control and Prevention. Updated U.S. Public Health Service guidelines for the management of occupational exposures to HBV, HCV, and HIV, and recommendations for postexposure prophylaxis. *MMWR* 2001;50(RR-11):1-42.

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Safer Generation of Spring-Loaded Fingerstick Lancets

To the Editor:

Desenclos et al. present a convincing case for the nosocomial transmission of hepatitis C virus associated with the use of a fingerstick device in a cystic fibrosis and diabetes hospital in France.[1] They attribute transmission to the inappropriate reuse of a disposable platform attached to the spring-loaded base unit of a fingerstick device. The same device was implicated in a similar nosocomial outbreak of hepatitis B virus reported by Polish et al.[2] Both reports identify the device in their titles as a "spring-loaded finger-stick device." Although true, this term suggests an association between the spring-loaded mechanism and the risk of infection, when, in fact, the removable platform is implicated as the transmission vehicle in both cases.

This point is worth mentioning because the Needlestick Safety and Prevention Act passed in the United States in November 2000 effectively renders illegal the use of this particular lancet in healthcare institutions in the United States—not because it is spring loaded, but because it has no needlestick protection integrated into its design.[3] There exist on the U.S. market at least eight single-use fingerstick lancets incorporating some type of spring-loaded mechanism that instantly retracts the lancet into a protective casing after activation, precluding both reuse and occupational needlesticks. These self-retracting lancets are listed on the web site www.med.virginia.edu/epinet. The widespread use of such safety-engineered spring-loaded lancets in healthcare institutions in the United States and other countries will go a long way toward minimizing the risk of infection associated with conventional lancets for both patients and healthcare workers.

Also, the possibility that hand contamination of healthcare personnel could have contributed to the nosocomial transmission of hepatitis C virus in this patient population should not be discounted. Although the authors state that the patients practiced "self-monitoring" of capillary blood glucose, a significant portion of them were young children who could not have performed the procedure without adult assistance. Scrupulous hand hygiene before and after each patient contact must be rigorously observed whenever capillary blood sampling is performed in healthcare facilities. Even the safest single-use lancet cannot prevent the transmission of pathogens due to hand contamination.

REFERENCES

1. Desenclos J-C, Bourdiol-Razès M, Rolin B, et al. Hepatitis C in a ward for cystic fibrosis and diabetic patients: possible transmission by spring-loaded finger-stick devices for self-monitoring of capillary blood glucose. *Infect Control Hosp Epidemiol* 2001;22:701-707.
2. Polish LB, Shapiro CN, Bauer F, et al. Nosocomial transmission of hepatitis B virus associated with the use of a spring-loaded finger-stick device. *N Engl J Med* 1992;326: 721-725.

3. Needlestick Safety and Prevention Act of 2000. Pub.L No. 106-430, 114 Stat. 1901. 11-6-2000.

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Incidence of Nosocomial Infection in a Brand-new Hospital

To the Editor:

Continuous hospitalwide surveillance for nosocomial infection (NI) was begun on the opening of a new 250-bed community hospital in Alzira, Spain. We report the results of the first year of surveillance.

The hospital has an intensive care unit with 12 beds. Most of the rooms in the inpatient ward are single. The hospital opened on January 1, 1999. During the first month, a multidisciplinary team was formed with the aim of performing surveillance and preventing infections. It included specialists in epidemiology, microbiology, and infectious diseases.

A cross-sectional study of NI was done in February 1999. Continuous surveillance for NI was performed daily during the rest of the year. Data on NI before the cross-sectional study were obtained from the microbiology department records and computerized medical notes. The cumulative incidence of NI and incidence densities per 1,000 patient-days were calculated by department. All isolated microorganisms were discussed daily by the multidisciplinary team to confirm the presence of NI following the Center for Disease Control (CDC) criteria.[1,2] The incidence of isolated microorganisms was evaluated by infection site.

The prevalence of NI in the initial cross-sectional survey was 6.5% (95% confidence interval [CI_{95}], 3.0 to 10.0). Sites of infection included surgical (2.7%; CI_{95}, 0.4 to 5.0), lower respiratory tract (1.0%; CI_{95}, 0.0 to 2.4), and soft tissue (1.0%; CI_{95}, 0.0 to 2.4). Of 12,766 patients admitted during the study period, 371 met CDC criteria for NI (2.9 per 100 admissions). The intensive care unit had the highest cumulative incidence (16.6 per 100 admissions), followed by general surgery (4.0 per 100 admissions) and plastic surgery (3.0 per 100 admissions) (Table). The incidence rate in the intensive care unit was 4.2 per 100 patient-days. However, it should be noted that two-thirds of NIs occurred outside the intensive care unit.

By infection sites, cumulative incidence rates per 100 admissions were 0.3% for urinary tract, 0.9% for surgical wound, 0.5% for primary bacteremia, 0.1% for soft tissue, and 0.3% for pneumonia.

Methicillin-resistant *Staphylococcus aureus* accounted for 40% of nosocomial *S. aureus* infection (CI_{95}, 25.7 to 54.3), with an incidence density of 0.3 per 1,000 patient-days (CI_{95}, 0.24 to 0.30). *Escherichia coli* accounted for 33.3% and *Pseudomonas aeruginosa* 25% of urinary tract infections. Among surgical-site infections, *E. coli* was identified in 14.2%, *P. aeruginosa* in 13.5%, and *S. aureus* in 6%. *P. aeruginosa* was identified in 23.7% and *S. aureus* in 21% of lower respiratory tract infections. *P. aeruginosa* and *S. aureus* were isolated in 8.3% of pneumonias. Coagulase-negative staphylococci were isolated in 33.8%, *S. epidermidis* in 22.5%, and *P. aeruginosa* in 3.2% of primary bacteremias.

The prevalence of NI in the initial cross-sectional study was lower than the prevalence published by the EPINE study (Spanish Prevalence Survey of NI).[3] Of note, surgical-site infection was the most frequent NI observed (32%), with highest rates in the intensive care unit (2.7 per 100 admissions), general surgery (2.4 per 100 admissions), and orthopedics (1.9 per 100 admissions).

Primary bacteremia rates were higher than those previously reported by the National Nosocomial Infections Surveillance system.[4] Nosocomial pneumonia rates were lower than those reported by Barsic et al.,[5] but lower respiratory tract infections were

TABLE
CUMULATIVE INCIDENCE OF NOSOCOMIAL INFECTION BY SERVICE AND INFECTION LOCATION

Service	Total No. Admitted	Total No. Infected	Incidence per 100 Admitted (CI_{95})	Incidence per 100 Admissions by Site						
				SS	PNE	BS	UT	LR	ST	Miscellaneous*
General surgery	1,765	71	4.0 (3.0 to 4.9)	2.4	0.3	0.5	0.4	—	—	0.2
Orthopedics	1,234	33	2.5 (1.7 to 3.3)	1.9	0.2	—	0.1	—	—	0.2
Pediatrics	906	7	0.7 (0.2 to 1.2)	0.1	—	0.1	0.1	—	0.2	0.2
Neurosurgery	267	6	2.2 (0.5 to 3.9)	—	1.1	—	0.7	—	—	0.3
Medicine	4,967	74	1.4 (1.1 to 1.7)	0.1	0.3	1.3	0.2	—	—	0.2
Intensive care unit	727	121	16.6 (13.9 to 19.3)	2.7	1.5	4.5	1.7	3.7	0.5	1.7
Gynecology	705	12	1.6 (0.7 to 2.5)	1.1	—	—	0.2	—	—	0.2
Oncology	333	10	2.7 (1.0 to 4.4)	0.3	0.3	0.9	0.6	—	0.3	0.6
ORL	702	8	1.1 (0.4 to 1.8)	0.4	0.2	0.1	—	—	—	0.2
Plastic surgery	132	4	3 (0.1 to 5.9)	1.5	—	—	—	—	0.7	0.7
Thoracic surgery	151	2	1.3 (0 to 3.1)	1.3	—	—	—	—	—	—
Vascular surgery	237	4	1.6 (0.1 to 3.1)	1.2	—	—	—	—	—	0.4
Urology	640	19	2.9 (1.6 to 4.2)	0.7	0.1	0.6	0.6	—	0.1	0.6
Total	12,766	371	2.9 (2.6 to 3.1)	118	46	64	48	28	14	53

CI_{95} = 95% confidence interval; SS = surgical site; PNE = pneumonia; BS = bloodstream; UT = urinary tract; LR = lower respiratory tract; ST = soft tissue; ORL = otorhinolaryngology.
*Occasional infections involving the gastrointestinal tract, ears, genitals, and oropharynx.