Needlestick injuries and potential body fluid exposure in the emergency department

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Introduction

Exposure to blood and body fluids has long been recognized as an occupational hazard among health care professionals. Injury with contaminated needles and other sharp-object injuries place health care workers at risk for contracting blood-borne pathogens, including HIV, hepatitis B and hepatitis C. US data have placed the annual incidence of needlestick injuries among health care workers at 10%.[1] Because workers often present to the emergency department (ED) after such injuries, emergency physicians should be familiar with seroconversion risk factors (e.g., deep tissue exposure, larger blood volumes and viral load),[2] with the indications for postexposure prophylaxis (PEP) and with the efficacy of anti-retroviral therapy for HIV exposure — which is associated with a 79% reduction in seroconversion.[2]

Needlestick injuries

Needlestick injuries most often occur among health care professionals working with contaminated needles; however, prison workers, inmates, public service employees, janitors and waste handlers, and even the general public are also at risk. Health care workers often can identify the source patient and obtain permission for body fluid testing, but non health care workers are rarely able to identify the source of contamination — particularly when the sharp objects are found among waste products or garbage. When the source of the exposure is unknown, risk must be estimated based on the local prevalence of infectious pathogens.[3]

Role of the emergency department

ED personnel should document the nature of the exposure, the sharp object involved, type and volume of body fluid, and an injury description, including location, depth, duration and skin integrity. This information allows an assessment of seroconversion risk, after which appropriate bloodwork can be drawn and PEP initiated if appropriate. ED counselling is extremely important because it places the actual risk in perspective and relieves patient anxiety.[4] Patients are usually referred elsewhere for additional follow-up counselling, postexposure testing, monitoring of PEP drug toxicity and repeat HBV vaccination.

It is important to consider that non health care workers may face additional challenges. Employers not directly involved with health services may not provide their workers access to occupational health services familiar with issues around body fluid exposure. In addition, the ED typically prescribes a short duration of PEP to last until the patient can access dedicated employee health services — only 5 days, in our centre. Employee health insurance may not cover the significant costs of ongoing PEP. Follow-up becomes even more difficult if the patient lacks a regular family physician. These are important issues that are not addressed in the medical literature.

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Need for a standardized approach

Given uncertainty about the risk of individual exposures, the evidence of benefit for PEP, the cost and side effects associated with PEP, the diversity of physician experience and beliefs, as well as differing disease prevalence in different settings, there is probably wide variability in the management of needlestick and sharp-object injuries. The complexity, uncertainty and variability related to these injuries suggest that there may be benefit in standardizing care by creating customized ED charts and needlestick care paths or protocols. Previous authors have advocated standardized charting methods that incorporate important historical and physical features, evaluation checklists, standard orders, counselling and follow-up.[3,4]

Summary

Health care workers comprise the largest group of patients at risk for injury with medical instruments, however non health care workers and the general public are also at significant risk. Workers not based at a hospital may have poor access to treatment or follow-up supports in the event of possible HIV exposure. A standardized approach that includes assessment checklists, risk assessment and treatment and follow-up protocols will improve care for victims of needlestick injuries.

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