Patient Safety: Percutaneous Sharp Injuries – Post-exposure Procedures

From the AANEM Quality and Patient Safety Committee

Many healthcare workers, including some of 64% of electrodiagnostic (EDX) physicians who may have experienced a needlestick injury, are unfamiliar with proper post-exposure procedures following percutaneous sharp injury, leading to a greater risk of blood-borne pathogen seroconversion. Following sharps injuries, EDX physicians should immediately wash with soap and water and seek urgent medical care. Real-time guidance is available at National Clinician Consultation Center (https://nccc.ucsf.edu/) or National Clinicians' "PEPline" (888-448-4911).

Scenario: An experienced electromyographer is performing needle EMG of the pronator teres in a 33-year-old female patient without significant past medical history presenting with new right arm weakness. A resident walks into the exam room during the procedure to ask a question and the physician turns away from the patient to address the resident. The patient sneezes and pulls her arm away causing the physician to stick themselves in the hand with the EMG needle.

Question: Which of the following items leads to a "high risk" exposure when dealing with percutaneous sharp injuries?

A. Injury occurred with a sharp that was used on a non-blood vessel portion of the body (e.g. skin, subcutaneous tissue, tendon, muscle)

B. Injury occurred with an old, improperly discarded sharp

C. There is visible blood on the sharp at time of injury

D. Injury occurred with a sharp that was not used on a patient prior to injury

Answer: C) There is visible blood on the sharp at time of injury

Explanation: Percutaneous sharp injuries, including needlestick injuries during electromyography, pose a significant risk for healthcare workers (HCW). Many workers, however, are unfamiliar with proper post-exposure procedures, which can put them at a greater risk of seroconversion of blood-borne pathogens following an injury. After sharps injuries, the National Institute for Occupational Safety and Health (NIOSH) instructs HCW to immediately wash the area with soap and water, report the incident to their supervisor, and seek urgent medical care. Initial laboratory testing for the exposed HCW should

include both HIV (fourth generation antibody-antigen test) and HCV (anti-HCV with reflex HCV RNA). Testing for HBV core antibody (HBcAb) is also necessary if the HCW is unvaccinated or undervaccinated for HBV. Testing for HBV (HBsAg), HCV, and HIV should also be performed on the source patient as soon as possible as it will guide further management. HCW should also expect to undergo follow-up testing at approximately six weeks and six months following the exposure.

If indicated, postexposure prophylaxis (PEP) for HIV should be initiated within 2-3 hours of exposure and consists of a 28-day three-drug antiretroviral regimen. No further management is necessary for HBV if the HCW is fully vaccinated. The CDC does not recommend HCV postexposure prophylaxis.

It is estimated that at least half of sharp injuries go unreported. Local or state reporting is mandatory in certain areas but HCW should also report incidents through their institution to aid in local quality and patient safety processes.

For real-time guidance, EDX physicians can visit National Clinician Consultation Center at (https://nccc.ucsf.edu/) or the National Clinicians' "PEPline" (888-448-4911).

Sources:

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