

Enoxaparin sodium/heparin/ nadroparin calcium

Delayed hypersensitivity and cross-reactivity:

4 case reports

Four patients experienced delayed hypersensitivity reactions to enoxaparin sodium, heparin or nadroparin calcium [*outcomes not stated*]; subsequent intradermal, patch and SC testing demonstrated cross-reactivity to other heparins.

A 68-year-old woman received heparin [*dosage not stated*] during an episode of venous thrombosis. Eight weeks later, she reported localised itchy plaques at the injection sites. Over a few days, they spread across her abdomen. Histology was indicative of acute eczema. Intradermal tests showed cross-reactivity to enoxaparin sodium and nadroparin calcium (D2), and both intradermal tests and patch testing were positive to bemiparin sodium and dalteparin sodium (D4); SC challenge was positive to fondaparinux sodium at 36 hours.

A 44-year-old woman received nadroparin calcium 0.6mL twice daily, as prophylaxis following osteosynthesis surgery. Two weeks later, she developed itchy infiltrated plaques at the injection sites. Subacute eczema was diagnosed from a skin biopsy. Intradermal tests showed cross-reactivity to heparin, bemiparin sodium and enoxaparin sodium (D2) and dalteparin sodium (D4).

Postoperatively to intervertebral herniated disc surgery, a 44-year-old woman was administered nadroparin calcium 0.4mL twice daily. Seven days later, an infiltrated itchy erythematous plaque developed at the injection sites. No skin biopsy was done. Intradermal tests showed cross-reactivity to heparin and dalteparin sodium (D2).

A 68-year-old woman was treated with enoxaparin sodium 60mg twice daily due to deep vein thrombosis. After 3 days, she developed itchy, infiltrated eczematous plaques on her abdominal wall, at the site of injection. Acute eczema was apparent from histological examination. Intradermal tests showed cross-reactivity to dalteparin sodium (D4); SC challenge was positive to bemiparin sodium (D2).

Author comment: *"The pathogenesis of heparin hypersensitivity is not fully understood. Heparins may act as haptens by binding to dermal and/or subcutaneous structural proteins. Different patterns of cross-reactions among different heparins show the presence of several antigenic epitopes."*