



Vaccine-naive patients typically show a robust vaccination site reaction.



Patients who have been previously vaccinated evince a lesser reaction.

PHOTOS COURTESY DR. ERIC SIMPSON

Smallpox Revaccination Shows Different Reaction

BY MICHELE G. SULLIVAN
Mid-Atlantic Bureau

ST. LOUIS — Patients previously vaccinated for smallpox will, with revaccination, experience a smaller erythematous response, a quicker time to pustulation, and a fourfold increase in antibody titers, compared with vaccine-naive patients.

“This provides important clinical evi-

dence of retained immunity to smallpox, even in individuals vaccinated more than 30 years ago,” Eric Simpson, M.D., said at the annual meeting of the Society of Investigational Dermatology.

Additionally, said Dr. Simpson of Oregon Health and Science University, Portland, povidone ointment is an effective method of controlling viral shedding at the vaccination site, because within 2 hours, it decreases shedding to 0, and it has no effect on antibody titers.

Two recent studies have challenged the long-held theory that smallpox immunity lasts less than 10 years after vaccination, he said. A 2002 study showed that previously vaccinated individuals retained humoral immunity up to 75 years after vaccination.

A 2003 study concluded that previously vaccinated individuals could be successfully revaccinated with diluted vaccine, because of their more robust immune response.

Dr. Simpson vaccinated 26 healthy adult volunteers, 17 of whom had been vaccinated an average of 33 years earlier (range 2-50 years). The rest of the cohort was vaccine naive. He used a standard vaccination protocol, with the previously vaccinated group receiving 15 pokes with a bifurcated needle, while the vaccine-naive group received 3 pokes.

Measurements included maximum erythema at the vaccine site and maximum time to pustulation. Dr. Simpson also studied the effect of povidone ointment on viral shedding, when applied beginning at day 7.

The previously vaccinated group had a significantly smaller maximum diameter of erythema around the vaccination site, compared with the naive group (1.9 cm vs 3.9 cm).

The previously vaccinated group developed an erythematous reaction more quickly, beginning at day 3, compared with day 6 for the naive group. Erythema for both groups peaked around day 10.

It’s important that physicians be familiar with the differences in vaccination site reactions, he said. “This type of response is not a cellulitis and doesn’t need to be treated with antibiotics.”

Maximum time to pustulation was significantly shorter in the previously vaccinated group than in the naive group (about 7 days vs 9.6 days).

The previously vaccinated group developed four times the antibody titers of the naive group, he said. “This explains the earlier finding that you can successfully vaccinate these patients with diluted vaccine.”

To study the effect of povidone ointment on viral shedding, Dr. Simpson applied the ointment to the vaccination site every 2-3 days, beginning at day 7. Viral shedding was measured 1 hour after the ointment was applied. “The shedding dropped to 0 within 1-2 hours and stayed that way throughout the entire vaccine response,” he said. “In the untreated group, viral shedding continued to occur until approximately day 20, which is around the time the eschar was shed.”



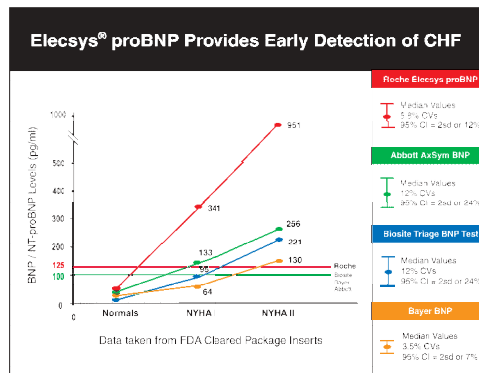
ELUCYS is a trademark of Roche. © 2003 Roche Diagnostics. All rights reserved. 491-27709-0715

Theirs. Elecsys® proBNP assay
And yours. Early detection.
Differential diagnosis.



Just a routine physical. That’s all it was. But the patient complained of age creeping up on him. Nothing serious, just a lack of stamina, wheezing from climbing stairs, not recovering as fast. Is it really age – or the early stages of serious heart disease? The Elecsys proBNP assay delivers the critical information you need to diagnose congestive heart failure in the early stages, with a negative predictive value of up to 100%.

For more information, call 1-877-762-4366.



Diagnostics