

## Correspondence

### Severe allergic eczematous skin reaction to 2009(H1N1) influenza vaccine injection

Influenza is an acute, contagious respiratory illness caused by orthomyxovirus and is capable of causing epidemics and pandemics. On April 21, 2009, the Centers for Disease Control and Prevention (CDC) isolated a novel influenza A virus that contained a genetic combination of segments from previous swine influenza viruses that circulated in the USA since 1999, genes from the swine viruses of Eurasian lineage, and genes from avian influenza viruses.<sup>1</sup> The same virus strain was confirmed among the samples from a cluster of Mexican patients of rapidly progressive severe pneumonia associated with high morbidity and mortality.<sup>2</sup> This novel virus, called 2009(H1N1) influenza A virus, caused nearly 30,000 cases of pneumonia across 74 countries by June 2009, compelling the World Health Organization (WHO) to signal the phase 6 alert level, officially declaring the start of the 2009 swine flu pandemic.<sup>3</sup>

Vaccination is the most effective means of preventing morbidity and mortality associated with influenza. Previous seasonal vaccines did not appear to confer protection against the 2009(H1N1) virus. New vaccines based on A/California/07/2009(H1N1) strain have hence been licensed and made available since September 2009.<sup>4</sup>

We report a case of severe, local cutaneous adverse reaction in a 20-year-old Indian girl who received the 2009(H1N1) inactivated vaccine injection in Saudi Arabia prior to her departure to India. A day after the injection, she developed a small red swelling at the vaccination site on the left deltoid area. An intense itching and peeling of skin occurred over the next few days, followed by oozing and crusting. At the time of her presentation to us two weeks later, she had an erythematous, edematous, tender induration over the left arm with a few areas of normal skin in between. An oozing, scaly, crusted plaque of 4 cm diameter was present at the injection site. Small erythematous papules were present at the periphery of the plaque (Fig. 1). There were no constitutional symptoms or axillary lymphadenopathy. She was managed with oral antibiotics, antihistamines, analgesics, and topical steroids. The lesions subsided in one week, with mild hyperpigmentation and a considerable reduction in the induration (Fig. 2).

Local reactions to inactivated influenza vaccine are common and include erythema, edema, and pain at the site. Systemic reactions including fever, headache, myalgia,



**Figure 1** Severe eczematous reaction

malaise, and arthralgia can occur in the first week after vaccination but are mild.<sup>5</sup> Immediate reactions such as angioedema, allergic asthma, or anaphylaxis can rarely occur as a result of hypersensitivity to some component of the immunogen.<sup>6</sup> Concern regarding Guillain-Barré syndrome (GBS) was also raised, but in recent years it has been speculated that earlier reports of GBS after influenza vaccination were not coincidental.<sup>7</sup>

Our case is a type of delayed hypersensitivity reaction to 2009(H1N1) vaccine presenting as an eczematous skin eruption. The usual local adverse reactions to inactivated influenza vaccines are mild, self-limiting, and settle in one or two days. To our knowledge, such a severe skin reaction lasting for nearly three weeks has not been reported previously. The inactivated vaccine should not be given to persons with severe allergic reaction to eggs or known hypersensitivity to any component of the vaccine.<sup>8</sup> Despite many years of worldwide experience with influenza vaccines, rare and potentially serious adverse reactions may not be detected with the pandemic strain vaccine before licensure and/or widespread use because



**Figure 2** Resolving skin reaction

of the limits in the size of clinical trials.<sup>9</sup> This case necessitates the need for constant vigil and early reporting of adverse reactions to the 2009(H1N1) vaccine.

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