

LETTER

# Possible life-threatening adverse reaction to monovalent H1N1 vaccine

Rungsun Bhurayanontachai\*

The vaccine against H1N1 was initially issued in July 2009 with no doubts regarding its beneficial immunoprotective effect [1,2]. Recent reports have shown that adverse events are few and generally not life-threatening [3]. Therefore, a worldwide vaccination program was launched with very strong confidence [4]. Herein, for the accumulative record, I report a possible life-threatening reaction of the monovalent H1N1 vaccine in Thailand.

A 38-year-old pregnant woman (gestational age of 25 weeks) was fit and well and had regular antenatal care without any problems. She was given an H1N1 vaccination and the following day developed diffuse myalgia and minimal shortness of breath. Her condition continued to deteriorate, ultimately ending in respiratory failure on day 5 post-vaccination. On arrival at the intensive care unit, she was tachypneic, tachycardic, and hypotensive. Her chest film demonstrated diffuse bilateral lung infiltration. She was eventually intubated and ventilated with high-concentration oxygen and high positive end-expiratory pressure. She was found to have bloody secretions from tracheal aspiration. Acute lung injury with pulmonary hemorrhage was, therefore, suspected.

A complete physical examination revealed a severe bilateral subconjunctival hemorrhage. No other abnormalities were detected. Blood labs showed a leucopenia level of 2,600/mm<sup>3</sup>, mild anemia with hemoglobin of 10 gm/dL, and a platelet count of 40,000/mm<sup>3</sup>. A coagulation study was normal. She was also suffering from acute renal failure with a creatinine level of 3 mg/dL. Urinalysis demonstrated proteinuria with a quantitative count of around 1.2 gm/L with microscopic hematuria. A liver function test also showed mild transaminitis. Microbiological study and culture were negative. An echocardiogram showed severe pulmonary hypertension, possibly from severe acute lung injury.

Overall, she developed multiple organ failure, including acute respiratory distress syndrome (possibly from pulmonary hemorrhage), shock, acute renal failure with possible glomerulonephritis, and thrombocytopenia. Systemic autoimmune diseases, such as systemic lupus erythematosus or systemic vasculitis, were considered in the differential diagnosis, but all vasculitic screens, including anti-nuclear antibody, C3 and C4 levels, 50% hemolytic complement (CH<sub>50</sub>), anti-neutrophil cytoplasmic antibody, and anti-double-stranded DNA, were negative. The patient's clinical condition slowly improved over the following 7 days with aggressive organ support but no specific management.

In conclusion, the diagnosis of this patient remains unclear; however, vasculitis or an autoimmune disease is unlikely, and a severe adverse event following the H1N1 vaccination could not be completely excluded. Physicians should remain alert to possible severe adverse reactions to this vaccine.

#### Competing interests

The author declares that he has no competing interests.

#### Acknowledgments

Written consent for publication was obtained from the patient.

Published: 4 June 2010

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\*Correspondence: [rungsun2346@gmail.com](mailto:rungsun2346@gmail.com)

Division of Critical Care, Department of Internal Medicine, Faculty of Medicine, Prince of Songkla University, 15, Kanchanawanich Road, Hat Yai, Songkhla, Thailand, 90110