รายงานผู้ป่วยเกิดผื่นแดงภายหลังได้รับวัคซีน CoronaVac

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Abstract: A Case Report of Morbilliform Eruption after Vaccination of CoronaVac Vaccine

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The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causes the coronavirus disease 2019 (COVID-19) systemic viral syndrome responsible for an ongoing global pandemic. COVID-19 has led to high morbidity and mortality worldwide. The absence of immunity in the population could be susceptible to new waves of COVID-19 infection. The effective equipment to prevent this pandemic is the development of a potential vaccine against the disease. CoronaVac (Sinovac Life Sciences, Beijing, China) is an inactivated vaccine alternative against COVID-19, that has shown immunogenicity with vaccine-induced neutralizing antibodies to SARS-CoV-2. Nowadays, we have few reports about this vaccine, due to a short time of development. Currently, we report a case of 29-year-old Thai female with the developing of morbilliform rash on the face and chest 40 minutes following the first dose vaccination.

Keywords: COVID-19, vaccine, sinovac, coronavac

บทคัดย่อ

โรคโควิด 19 (COVID-19) คือโรคติดต่อของระบบทางเดินหายใจซึ่งเกิดจากการติดเชื้อไวรัสโคโรนาสายพันธุ์ซาร์-โควี-2 (SARS-CoV-2) เป็นโรคติดเชื้ออุบัติใหม่ ค้นพบการระบาดครั้งแรกในเมืองอู่ฮั่น ประเทศสาธารณรัฐประชาชนจีนในช่วงเดือนธันวาคม ปี 2562 ต่อมาได้มีการระบาดไปทั่วโลก แต่ถึงอย่างไรก็ตาม การขาดภูมิคุ้มกันต่อเชื้อไวรัสโคโรนาสายพันธุ์ซาร์-โควี-2 อาจนำไปสู่การติดเชื้อระลอกใหม่ได้ เครื่องมือที่มีประสิทธิภาพในการป้องกันการแพร่ระบาดคือการมีวัคซีนเพื่อป้องกันการแพร่ระบาด ด้วยเหตุนี้หลายประเทศทั่วโลกจึงได้มีการคิดค้นพัฒนาวัคซีน เพื่อสร้างภูมิคุ้มกันให้กับประชากร

โคโรนาแวค (CoronaVac) เป็นวัคซีนที่พัฒนามาจากเชื้อตาย (inactived vaccine) กระตุ้นให้ร่างกายสร้างภูมิคุ้มกันต่อเชื้อไวรัสโคโรนาสายพันธุ์ซาร์-โควี-2 แต่เนื่องด้วยระยะเวลาการศึกษาที่จำกัด ประกอบกับมีความจำเป็นต้องนำวัคซีนมาใช้อย่างเร่งด่วน ทำให้ข้อมูลการศึกษาผลข้างเคียงที่อาจจะเกิดขึ้น รวมไปถึงข้อมูลความปลอดภัยยังค่อนข้างมีอยู่น้อย

รายงานฉบับนี้เป็นการนำเสนอผู้ป่วยหญิงไทยอายุ 29 ปี มีอาการผื่นแดง คัน บริเวณใบหน้า และหน้าอก ภายหลังการได้รับวัคซีนซิโนแวคเข็มแรกประมาณ 40 นาที

คำสำคัญ: โควิด19, วัคซีน, ซิโนแวค, โคโรนาแวค

Introduction

The severe acute respiratory syndrome coronavirus2 (SARS-CoV-2) causes the coronavirus disease 2019 (COVID-19) systemic viral syndrome responsible for an ongoing global pandemic. The virus was first determined in December 2019 in Wuhan, China. COVID-19 has led to high morbidity and mortality worldwide.[1] The number of infected patients was about 100 million in which resulted in 1.15 million deaths.[1]

Social distancing, using a face mask, self-isolation, and handwashing were effective in limiting the number of

newly infected cases of COVID-19 only in the short run. The absence of immunity among the population could induce new waves of COVID-19 infection.[2] In the high-risk groups, healthcare workers, elderlies (aged >60 years old), and those with underlying diseases are prone to infection or even have a high mortality rate. The practical measure to mitigate this pandemic and prevent its recurrence is developing a potential vaccine against the disease.

CoronaVac (Sinovac Life Sciences, Beijing, China) is an inactivated vaccine alternative against COVID-19, and has shown immunogenicity with vaccine-induced neutralizing antibodies to SARS-CoV-2.[3] Although the current report has shown mild adverse reactions. Only one case of severe hypersensitivity with a manifestation of urticaria occurred 48 hours after the first dose of vaccination. The volunteer was given chlorphenamine and dexamethasone and recovered within three days. No similar reaction was observed after the second dose of the vaccine.[4] Currently, we report the morbilliform rash on the face and chest of a patient 40 minutes following the first dose vaccination.

Case report

A 29-year-old, female, with no underlying diseases. She has a history of allergy to shrimp, but no history of allergy to any medication, including a vaccine. She is a finance officer of a public hospital. She has been injected with the first dose of the CoronaVac vaccine into her left deltoid muscle. After 30 minutes, she was not observed with any significant abnormal symptom. Then, 10 minutes later, she felt that her eyes were swelling and mildly itchy. Her blood pressure was high (190/110 mmHg) and she felt as if she was about to faint. Physical examination revealed morbilliform rash on her cheeks, and later found on her chest wall as well (figure 1 A;B). Her conjunctivae were injected (figure 2). She had no sign of dehydration. She was subsequently given intravenous dexamethasone and chlorpheniramine, and recovered within 1 hour.

For the patient who was vaccinated, we recorded the vital sign, basic data from the patient, including the type of vaccine, Lot. number, and serial number. After vaccination, the patient was observed for 30 minutes.

In the second dose of vaccination, she was prescribed pre-medication with cetirizine ten milligrams, 30 minutes before the injection. She had no symptoms like she was in the first dose of vaccination.

Our patient was written the informed consent for using her pictures in our report.

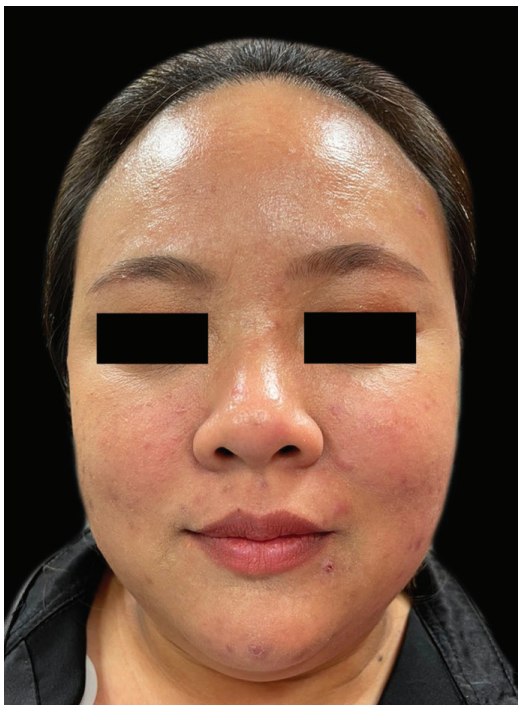

Figure 1A Morbilliform rash on the cheeks

Figure 1B Morbilliform rash on chest wall

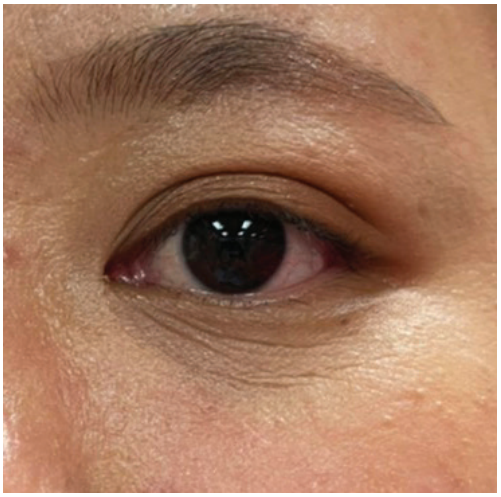

Figure 2 Conjunctival injection was observed.

Discussion

Morbilliform eruptions can potentially develop after systemic viral infections such as enteroviruses, echovirus, coxsackie, adenovirus, influenza, Ebstein-Barr virus, and human herpesvirus 6 and 7.[5] Currently, some reports have revealed that morbilliform rash would have been the most cutaneous manifestation associated with COVID-19 infections. The rash has clinical variability presentations. For example, it can develop during the onset of the disease or at later manifestation with negative repeating SARS-CoV-2 RT-PCR. These exanthems may be either pruritic or non-pruritic.[6] A previous report suggested that the rash was demonstrated following the immune activation.[7] Hence, it is likely that the morbilliform rash detected in our patient would have arisen from immune activation, as the rash onset and the vaccine injection were closely noticed. Another supportive document regarding the development of the morbilliform rash described that an inactivated virus could activate an immune-mediated system similar to influenza, typhoid, and human papillomavirus cases.[8]

We report a case of morbilliform rash that develops after the injection of the CoronaVac vaccine. The Adverse Drug Reaction Probability scale (NARANJO's scale) is 4 (possible).[9] An immune-mediated mechanism is suggested to be a cause of patient's related rash. As shown in a previous report of phase 1/2 clinical trial of CoronaVac vaccine, a single case of acute hypersensitivity reaction was experienced; but no similar reaction was found after injection of the second dose of vaccination.[4] According to the study by Derek et al. found that the risk of rapid allergic reactions after the second vaccine dosage

was low in the patients who suffered from the immediate reaction after a first vaccine dosage.[10] For the case of our concerned patient, after injected with the second dose of the vaccine, we have to closely observe the patient with prompt resuscitated equipment to evaluate and rescue if any adverse reaction manifests.

At present, the Thai government is on its course to vaccinate the Thai, in which CoronaVac vaccine is being used as the primary vaccine. The vaccination has first rolled out to the high-risk group of people, especially the healthcare workers. With more vaccinations being carried out in the near future, it is likely that a greater number of cutaneous adverse effects among patients may be witnessed. One major concern regarding the CoronaVac vaccine is that phase 3 clinical trial is not yet complete. As such, long-term follow-up and intensive monitoring the patients regarding the adverse reactions are necessary and further compulsory studies to evaluate the efficacy, adverse reaction, and any relevant concerns about the spotlighted CoronaVac vaccine.

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