

PEER-REVIEW REPORT

Name of journal: World Journal of Critical Care Medicine

Manuscript NO: 66242

Title: Near-fatal Pantan-Valentine leukocidin-positive Staphylococcus aureus pneumonia, shock and complicated extracorporeal membrane oxygenation cannulation: A case report

Reviewer's code: 05237049

Position: Peer Reviewer

Academic degree: MD, PhD

Professional title: Surgeon

Reviewer's Country/Territory: Italy

Author's Country/Territory: United States

Manuscript submission date: 2021-04-07

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-04-22 09:01

Reviewer performed review: 2021-04-23 22:16

Review time: 1 Day and 13 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous



**Baishideng
Publishing
Group**

7041 Koll Center Parkway, Suite
160, Pleasanton, CA 94566, USA
Telephone: +1-925-399-1568
E-mail: bpgoffice@wjgnet.com
<https://www.wjgnet.com>

statements

Conflicts-of-Interest: [☐] Yes [☒] No

SPECIFIC COMMENTS TO AUTHORS

Thank you for giving me the possibility to review the paper "Against the odds. Near-fatal Panton-Valentine Leukocidin-positive Staphylococcus aureus pneumonia, Shock and complicated ECMO cannulation: a case report". This paper is suitable of publication on the "World Journal of Critical Care Medicine" in the present form.

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Name of journal: World Journal of Critical Care Medicine

Manuscript NO: 66242

Title: Near-fatal Pantan-Valentine leukocidin-positive Staphylococcus aureus pneumonia, shock and complicated extracorporeal membrane oxygenation cannulation: A case report

Reviewer's code: 05533299

Position: Peer Reviewer

Academic degree: MD

Professional title: Chief Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: United States

Manuscript submission date: 2021-04-07

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-04-24 05:02

Reviewer performed review: 2021-04-29 14:02

Review time: 5 Days and 9 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The case report presents a multidisciplinary resuscitation of septic shock and ARDS in an adolescent female, who was diagnosed with a Panton-Valentine Leukocidin *S. aureus* and influenza virus H3N2 infection. The patient suffered a dramatic exacerbation and severe complications after admission, and following a rapid multidisciplinary response, the patient recovered and discharged. The report describes a rare medical record that is educational, however improvements need to be made in the following aspects. 1. PVL-SA is associated with the potential risk factors, including recent history of skin and soft tissue injury, history of antimicrobial use, and weight loss, etc. The patient has no previous history of immunodeficiency, but any other history of risk factors should be described in the past history. 2. PVL-SA causes injury to immune cells such as leukocytes mainly. The report neglected to describe the alteration of leukocyte morphology and number as well as the alteration of inflammation-related indicators such as procalcitonin and C-reactive protein during the patient's disease process. 3. It is mentioned in the report that the patient received approximately 6000mL of crystalloid and albumin fluid resuscitation on admission to the hospital. According to the fluid resuscitation protocol for patients with sepsis, the patient was 53 kg weight, whether this volume of fluid resuscitation was overloaded, which speed of resuscitation was given, what type of assessment was used during resuscitation, how the resuscitation goals were measured, and the initial post-resuscitation protocol and other treatment strategies were not described. The case reports should provide detailed treatment strategies, and new treatment strategies attempted should be analyzed if they do not conform with treatment guidelines, in order to provide experience and reference for clinicians. 4. The patients suffered from ECMO catheter stuck during treatment and catheter breakage



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160, Pleasanton, CA 94566, USA
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E-mail: bpgoffice@wjgnet.com
https:// www.wjgnet.com

when removing the catheter by incision. Whether there was any preoperative failure to perform vascular assessment? The reasons for the rare complications of ECMO, the management option for the complications, and the lessons learned from them should be discussed. 5. Only the X-ray chest film of the patient at 8h of admission is provided in the report, whether the chest CT and other relevant examinations were repeated during the treatment. More imaging examinations should be provided to summarize the evolutionary features of pulmonary pathological changes in ARDS caused by PVL-SA.

6. What is the treatment strategy in case of multi-organ failure such as diffuse intravascular coagulation and renal failure during ECMO treatment? How to deal with the high bleeding risk during the later adjustment from VA-ECMO mode to VV-ECMO, and how to assess the time to switch the ECMO mode? In conclusion, the process of treatment reported in the case should be presented in a continuous chronological order, and the whole history of the disease can be clearly reflected by drawing a test-exam-treatment-time diagram to show good educational significance. In the discussion section, the non-standard protocols or innovative treatment measures used in the case should be discussed to reflect the key role of multidisciplinary treatment. The diagnosis, treatment, and prognosis aspects of the case history should be clearly elaborated hierarchically in order to present a complete vision of the treatment of the disease.