

Dear Reviewers and Editor,

Thank you for reviewing our manuscript. We really appreciate your work and feedback. We have revised our manuscript according to peer-reviewers' and editors' comments point-to-point, which listed below.

Reviewer 1: This is a concise description of a patient who in all like hood should have died but was aggressively supported with ECMO and large doses of Mg and Ca. The uniqueness of the case is the ECMO and the survival and worth reporting from that point of view. I would suggest minimal changes except review the language used to limit the emotiveness of some statements such as "vital" as part of a management. There should be more details of the ecmo and how this was done in such an extensive burns patient and any difficulties encountered doing this.

Response to Reviewer 1:

Thank the reviewer for the comments.

1. Our manuscript has been edited for English language usage, grammar, spelling and punctuation by one or more native English-speaking editors at Nature Research Editing Service, which mentioned in 'The Revision Policies of BPG for Article'. The language certification is submitted.
2. We have revised some statements such as "fatal" on line 68 of page 3 to "potentially fatal", "fatal arrhythmia" on line 233 of page 10 to "potentially fatal arrhythmia", "fatal electrolyte imbalance" on line 276 of page 11 to "potentially fatal electrolyte imbalance".
3. The detailed parameters of ECMO when it was established 7 h post-admission are: V-V model; right femoral vein leaded, right subclavian vein pumped; oxygen concentration, 60%; speed, 3000/min; flow rate, 1.5 L/min. However, according to the article word count requirements, the detailed parameters are not listed in the manuscript.

Reviewer 2: This article is about HF with inhalation injury. HF burns can be fatal and is very serious chemical burn to be treated very aggressively. I think that the share of

the experience of HF inhalation injury is very helpful in burn field. However, there are some concerns in this article to be mentioned. In the abstract, is HF really one of the most common causes of chemical burns in China? Can you present any statistical data or references for that? In the Laboratory examination would you present all laboratory results at admission? What were the serum level of Na, K and CK, LD, AST, ALT ...? In the Treatment what kind of resuscitation formula do you use? Were there any other electrolyte and cardiac marker imbalance, when the patient had ventricular fibrillation? Did you use only antibiotic of cefamandole? or Other antibiotics for lung complication or wound management? Was there allograft before auto skin graft for full-thickness burns? How did you control pain? (HF burns show severe pain.) How many times did you check the serum calcium level and how quickly did you administrate to reach the target level? Did you perform bronchial lavage for removing remnant HF in the lung? or What did you try to remove chemical agent?

Response to Reviewer 2:

1. In the abstract, is HF really one of the most common causes of chemical burns in China? Can you present any statistical data or references for that?

Response: The reference for the statement is listed below.

Zhang YH, Han CM, Chen GX, Ye CJ, Jiang RM, Liu LP, et al. Factors associated with chemical burns in Zhejiang province, China: An epidemiological study. *BMC Public Health*. 2011;11:746, doi: 10.1186/1471-2458-11-746.

2. In the Laboratory examination would you present all laboratory results at admission? What were the serum level of Na, K and CK, LD, AST, ALT ...?

Response: The serum levels of Na, K and CK, LD, AST, ALT were normal. The reason why we did not present all laboratory results at admission in our manuscript is due to the limitation of the article word count requirements.

3. In the Treatment what kind of resuscitation formula do you use?

Response: The fluid resuscitation was guided according to Chinese General Formula and adjusted with urinary output of 0.5-1.0 ml/h/kg as a resuscitation goal.

4. Were there any other electrolyte and cardiac marker imbalance, when the patient

had ventricular fibrillation?

Response: When the patient had ventricular fibrillation, we initially considered electrolyte imbalance based on the patient's medical history, so the electrolyte level was quickly assessed and electrolyte disturbances were quickly treated. Other cardiac marker, such as troponin T, were detected after resuscitation.

5. Did you use only antibiotic of cefamandole? or Other antibiotics for lung complication or wound management?

Response: The antibiotic drug cefamandole was routinely administered intravenously to prevent infection after admission for several days. During the perioperative period, the level of antibiotics was increased.

6. Was there allograft before auto skin graft for full-thickness burns?

Response: Allograft was carried out several times before auto skin graft.

7. How did you control pain?

Response: We used fentanyl to control pain.

8. How many times did you check the serum calcium level and how quickly did you administrate to reach the target level?

Response: At the beginning we checked serum calcium every half hour to adjust the speed of calcium supplementation. When the serum calcium concentration was relatively stable, we checked once or twice a day. There was a blood gas machine in our ICU ward, so it only took 1 minute to get the result.

9. Did you perform bronchial lavage for removing remnant HF in the lung? or What did you try to remove chemical agent?

Response: We did perform bronchial lavage for removing remnant HF in the lung when the patient was admitted to the BICU. The fluid was released from the blisters on the wounds to prevent the persistent toxic effects of the fluoride ion. The wounds were topically infiltrated using 10% calcium gluconate solution (in soaked gauzes) and covered with biological dressing. The wound dressings were changed daily.