Reviewer's report

Title: Extracorporeal membrane oxygenation successfully used in reversal of cardiorespiratory failure induced by atonic uterine bleeding: a case report

Version: 2 Date: 20 September 2013

Reviewer: Jun Oto

Which of the following best describes what type of case report this is?: Findings that shed new light on the possible pathogenesis of a disease or an adverse effect

Has the case been reported coherently?: Yes

Is the case report authentic?: Yes

Is the case report ethical?: Yes

Is there any missing information that you think must be added before publication?: Yes

Is this case worth reporting?: Yes

Is the case report persuasive?: Yes

Does the case report have explanatory value?: Yes

Does the case report have diagnostic value?: Yes

Will the case report make a difference to clinical practice?: Yes

Is the anonymity of the patient protected?: Yes

Comments to authors:

General comments:
The authors present a case of successful treatment by ECMO of cardiorespiratory failure after massive uterine bleeding without any hemorrhagic complication. The authors concluded that as long as meticulous examination of clotting status is carried out, ECMO should be considered as an ultimate means of life support even in the case of obstetric bleeding.

Application of ECMO in case of postpartum bleeding is challenging for medical practitioners and available published data are still lacking. This case presentation contains possibly important information for difficult decision making of ECMO indication for patients with bleeding tendencies.
Minor concerns:

Abstract:
1) Line 4-6: “We report the first postpartum case, to our knowledge, of successful
treatment...uterine bleeding.”

Reference No. 8 (Reyftmann et al. Obstetric Gynecol 2006;107:511-514) has
also reported a similar case report.

Introduction:
1) Last sentence: “cardiorespiratory failure due to severe atonic uterine
bleeding”.

It is unclear for this reviewer why atonic uterine bleeding leads to
cardiorespiratory failure. In addition, atonic uterine bleeding seemed to be well
controlled at the time ECMO was initiated. Is it better to state “after severe atonic
uterine bleeding” instead of “due to severe atonic uterine bleeding”?

Case presentation:
1) Third paragraph: “Echocardiography showed severe diffuse hypokinesis of the
left ventricle…”

If possible, please add the actual data of echocardiography (ejection fraction, etc)
before indication of ECMO and after treatment by ECMO because the reader will
be able to understand the cardiac contractile function during the procedure.

2) Please provide additional patient background information such as preexisting
conditions.

Discussion:
1) Second paragraph: “Because she showed no evidence of any preexisting
cardiac morbidities,...”

Please describe this content in Case Presentation, too.

2) Second paragraph:
Although authors described the potential differential diagnosis of cardiac
dysfunction, it is still unclear what the possible main cause of cardiac dysfunction
in this case was. This case showed very quick recovery of cardiorespiratory
function after initiation of ECMO. Are these diagnoses of cardiac dysfunction
consistent with this case? Was the ventricular fibrillation due to persistent
hypotension at ICU admission also related to this cardiac dysfunction? Please
discuss more clearly.

3) Third paragraph: “we tightly regulated the ACT range…”

Please clarify the meaning of “tight anti-coagulation” control. How often did you
check ACT during ECMO? Please clarify this in Case Presentation.

4) Third paragraph: Authors indicated that a tight anticoagulation control during
ECMO was key factor to complete the treatment without any major bleeding. But
the patient’s bleeding being under control at the initiation of ECMO was also a key factor in this case.

Conclusions

1) “As long as meticulous examination of clotting status…”
It is unclear what the difference is between the anticoagulation controls used in this case and the usual controls. Are many practitioners likely to adjust anticoagulation controls roughly or to perform over-anticoagulation controls?

**Quality of written English:** Acceptable

**Declaration of competing interests:**

I have no competing interests.