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Hypolipidemia contributing to the severity of sepsis triggered by influenza A virus: a case report

Abdallah Qasim, Omar Kousa*, Venkata Giri Andukuri

Corresponding author
Omar Kousa
Internal medicine department, Creighton university, NE, 11306 Lafayette Ct, 68154, Omaha, United States

Handling editor:
Michal Heger
Department of Pharmaceutics, Utrecht University, the Netherlands
Department of Pharmaceutics, Jiaxing University Medical College, Zhejiang, China

Review timeline:

Received: 16 June, 2020
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Revision received: 24 September, 2020
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1st Editorial decision
24-Sep-2020

Ref.: Ms. No. JCTRes-D-20-00058
Hypolipidemia contributing to the severity of sepsis: a case report
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Dear author(s),

Reviewers have submitted their critical appraisal of your paper. The reviewers' comments are appended below. Based on their comments and evaluation by the editorial board, your work was FOUND SUITABLE FOR PUBLICATION AFTER MINOR REVISION.

If you decide to revise the work, please itemize the reviewers' comments and provide a point-by-point response to every comment. An exemplary rebuttal letter can be found on at http://www.jctres.com/en/author-guidelines/ under "Manuscript preparation." Also, please use the track changes function in the original document so that the reviewers can easily verify your responses.

Your revision is due by Oct 24, 2020.

To submit a revision, go to https://www.editorialmanager.com/jctres/ and log in as an Author. You will see a menu item call Submission Needing Revision. You will find your submission record there.

Yours sincerely,

Michal Heger
Editor-in-Chief
Journal of Clinical and Translational Research

Reviewers' comments:

Reviewer #1: In the case report the authors present a case of hypolipidemia that might have been a contributing factor for severe sepsis
They presented a case of a 46 year old man who aquired an acute Influenza A infection from full health. He presents himself with an emergency room with
pneumonia in the left upper field. Laboratory findings include an increase in PCT in leukopenia, slightly elevated liver values, an increase in lipase, and signs of acute cardiac involvement.
This was confirmed in an echocardiogram.
Further diagnostics showed a strong decrease of LDL.
Diagnosis of sepsis because of organ dysfunction: heart and kidney dysfunction.

The observation that low LDL could be a prognostically important factor in the course of sepsis is an interesting new point and of great clinical interest.
Up to now, this parameter has received little attention in the evaluation of the course of sepsis.
Nevertheless, some information about the patient would still be important to better understand the case.
Furthermore, a more differentiated discussion of different aspects would be desirable.
These points are outlined below:

Title: With regard to the title, it should be integrated that this is a severe course of an influenza A virus-induced sepsis,
since the initial antiviral inflammatory response may differ from the bacterial response and thus the general validity cannot necessarily be deduced from it.

Line 36: The weight and height of the patient should be mentioned in the case presentation. Was he slim? obese?
In addition, a year of presentation should be included to clarify that COVID-19 was not yet an option for differential diagnosis.
Line 83: It would still be important to know how the patient was fed e.g. pareneral nutrition. It should be briefly discussed whether the diet or malnutrition has an influence on LDL.

Table.2
Since the patient was still under medical care, was the LDL determined again after day 3?
That would still be an important factor which should - if available - be added into the table.

Furthermore, the authors should introduce the statement of this paper into the corresponding discussion and name a possible difference to their patient:
doi: 10.1097/CCM.0000000000003551.

Line 127 A short explanation why severe illness leads to hypolipidemia would be desirable.
Furthermore, it should be noted that this observation is most likely associated with sepsis and is not an observation that may be specific to or associated with severe influenza A virus.

Line 144 The higher morbidity had a good course in this case, so I would not mention mortality in the context of this patient.

Line 161: As a suggestion, another sentence would be nice, whether it is possible with simple means, for example,
a changed diet during the critical illness phase, to respond to this parameter to modulate it or whether this is still too little underlaid with Data or is not possible so quickly at all.

Authors' response
Re: revision JCTRes-D-20-00058

Dear Editor in-chief
Thank you for giving us an opportunity to resubmit a revised version of our manuscript entitled "Hypolipidemia contributing to the severity of sepsis triggered by influenza A virus: a case report" We have addressed all comments of the reviewers using the track changes function in Word (attached as supplementary material not for publication). Moreover, every modification or rebuttal of the reviewer's comments is detailed per comment below in red italics.

We are grateful for the useful comments of the reviewers, as a result of which the paper has been considerably improved.
On behalf of the authors, kindest regards,
Abdallah Qasim

REVIEWER COMMENTS :

In the case report the authors present a case of hypolipidemia that might have been a contributing factor for severe sepsis
They presented a case of a 46 year old man who aquired an acute Influenza A infection from full health. He presents himself with an emergency room with
pneumonia in the left upper field. Laboratory findings include an increase in PCT in leukopenia, slightly elevated liver values, an increase in lipase, and signs of acute cardiac involvement.
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These points are outlined below:

Title: With regard to the title, it should be integrated that this is a severe course of an influenza A virus-induced sepsis, since the initial antiviral inflammatory response may differ

from the bacterial response and thus the general validity cannot necessarily be deduced from it.

Change addressed

Line 36: The weight and height of the patient should be mentioned in the case presentation. Was he slim? obese?
In addition, a year of presentation should be included to clarify that COVID-19 was not yet an option for differential diagnosis.

Change addressed. The patient's weight was 110 Kg and his 188 cm tall. The year of presentation was before 2020. Added to the text.

Line 83: It would still be important to know how the patient was fed e.g. parenteral nutrition. It should be briefly discussed whether the diet or malnutrition has an influence on LDL.

Change addressed – enteral feeding all through his hospitalization. Added to the text.

Table.2
Since the patient was still under medical care, was the LDL determined again after day 3? That would still be an important factor which should - if available - be added into the table.

information not available. Unfortunately, the patient lost follow up and we don't have a follow up LDL level.

Furthermore, the authors should introduce the statement of this paper into the corresponding discussion and name a possible difference to their patient:
doi: 10.1097/CCM.0000000000003551.

Change addressed

This article discusses if low LDL levels causes increased mortality. It didn't show causal relationship to increased mortality. However, they studied the genetic mutations that are associated with low LDL and not actual LDL level. And our case suggests a possible association of low LDL with increased morbidity in sepsis triggered by influenza A pneumonia

Line 127 A short explanation why severe illness leads to hypolipidemia would be desirable. Furthermore, it should be noted that this observation is most likely associated with sepsis and is not an observation that may be specific to or associated with severe influenza A virus.

Change addressed – it's mentioned in line 157-159 :" Although multiple studies link severe infections to low cholesterol levels by decreased production due to changes in genetic expression induced by severe sepsis, in these cases, *".*

Line 144 The higher morbidity had a good course in this case, so I would not mention mortality in the context of this patient.
Change addressed – thank you for mentioning that.

Line 161: As a suggestion, another sentence would be nice, whether it is possible with simple means, for example,

a changed diet during the critical illness phase, to respond to this parameter to modulate it or whether this is still too little underlaid with Data or is not possible so quickly at all.

Change addressed:

"Severely low LDL levels can be associated with higher morbidity in severe sepsis patients. In addition, there might be a possible association of severely low LDL levels with congestive heart failure. However, further clinical studies are needed to evaluate the effect of severely low cholesterol levels on the inflammatory response, especially with sepsis patients. And whether changing the diet to address the deficiency would help with that or not is a question that is still needs to be answered by further studies."

2nd Editorial decision
02-Oct-2020

Ref.: Ms. No. JCTRes-D-20-00058R1
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Dear authors,

I am pleased to inform you that your manuscript has been accepted for publication in the Journal of Clinical and Translational Research.

You will receive the proofs of your article shortly, which we kindly ask you to thoroughly review for any errors.

Thank you for submitting your work to JCTR.

Kindest regards,

Michal Heger
Editor-in-Chief
Journal of Clinical and Translational Research

Comments from the editors and reviewers: