Author’s response to reviews

Title: Vitamin K deficiency-induced hemorrhagic shock after thoracentesis: A case report

Authors:

Itagaki Hideya (hideya.itagaki@gmail.com)
Takuro Hagino (haginotakuro@gmail.com)

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Reviewer reports:

I. Michael Leitman (Reviewer 1): This is a single case report of a patient that developed diet and antibiotic induced vitamin K dependent coagulopathy. Pleural drainage via thoacentesis was deemed to be necessary be necessary and caused hemothorax. The findings were not documented by a specific laboratory test. The case report is not sufficient novel to merit publication

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Thank you for reviewing my manuscript.

Silvia Martin Bielsa (Reviewer 2): The authors present a clinical case entitled: "Vitamin K deficiency induced haemorrhagic shock after thoracentesis: a case report". The case is relevant. However, I believe that this paper would be improved if the authors would consider the following:

1. The authors should specify the value of coagulation tests (activated partial thromboplastine time...) before and after the haemorrhagic complication and in blood examination on day four.

→The value of coagulation tests are as follows: PT: 11.4, APTT: 31.9 on day 4; PT: 13.8, APTT: 38.5 before thoracentesis on day 13; and PT: 68.0, APTT: immeasurable after thoracentesis on day 18.
2. How much pleural fluid was evacuated on days 13 and 17? Which was the procedure used to drain the pleural fluid? Did they use ultrasound to lead the procedures? They should specify these details and the biochemical characteristics of the pleural fluid.

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The thoracentesis decided a puncture position in an echo, but we did not use the echo at the time of puncture. There was pleural effusion discharge of 300–400ml from both drains, and the pleural effusion were transudative pleural effusion.

3. Figures 1-4 are redundant; I think that only one or two should be selected.

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I have reduced the number of images and intend to use only Figures 3 and 4. Accordingly, I renumbered the figures.

4. The authors conclude, "When thoracentesis is performed, abnormalities in the path of the intercostal artery should be identified". What do the authors propose to do? I think the most important conclusion is the measurement of coagulation function and supplementations of vitamin K are necessary in high-risk patients, as the authors suggest too.

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I believe that the measurement of coagulation function and supplementation of vitamin K were the most important conclusions; however, I believe that we lowered the risk by checking a blood vessel using Doppler when we decided the site of puncture in an echo.

Chen Er-zhen (Reviewer 3): 1. The case presentation, which is narrated by date, hindered our comprehension of the process as the length of stay is long. A flow chart is suggested to concisely present the hospitalization process.

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The flow chart is as follows:

On Day 2 of admission, fever
On Day 4 of admission, gallstone-related cholecystitis with bile duct inflammation was diagnosed. Antibiotic treatment with SBT/ABPC was initiated.

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On Day 5 of admission, PTGBD was performed.

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On Day 6 of admission, the patient developed hypotension, and we initiated noradrenaline administration.

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On Day 8 of admission, noradrenaline was discontinued.

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On Day 13 of admission, we drained the right pleural cavities.

↓

On Day 17 of admission, we drained the left pleural cavities.

↓

On Day 18 of admission, hemorrhagic shock occurred due to massive hemothorax. We performed red blood cell and fresh frozen plasma transfusions and administered vitamin K.

↓

On Day 19 of admission, we performed coil embolization from the seventh to ninth intercostal artery. The patient’s condition stabilized.

2. The authors mentioned that blood coagulation tests were done when thoracic hemorrhage was observed, however, the test results are not presented in the article. It is of value to supply these results.

↓

The value of coagulation tests are as follows: PT: 68.0, APTT: immeasurable after thoracentesis.

3. Were other local signs of bleeding found?
Other local signs of bleeding were not found.

4. In the discussion part, the authors listed a few potential causes of Vitamin K deficiency, whereas more details are supposed to be offered here, i.e.: duration of fasting necessary for Vitamin K deficiency, frequencies of SBT/ABPC administration in reference [4] and were they the same to yours?

There was no mention regarding the fast period in the reference [4], but coagulation disorder was found in one-week antibiotic use.

According to other literature, when there is no oral intake and antibiotics are administered, coagulation disorder occurs in 3–4 weeks, and disorder occurs in the severely affected patients in 1–3 weeks.

Shotaro S: [A suspicious case of massive hemorrhaging from an epidural puncture aperture resulting from coagulopathy caused by vitamin K deficiency associated with fasting and antibiotics] Journal of Japan Society of Pain Clinicians Vol.19 No.4, 2012