Reviewer's report

Title: Stress-induced hyperthermia in a patient with small cell lung cancer: an individual case report

Version: 4 Date: 8 December 2014

Reviewer: Seigo Minami

Reviewer's report:

Dear Editor

This is a case report of psychogenic fever in a patient with small cell lung cancer. In this case, several antibiotics therapies were all ineffective, but anti-anxiety agents improved the fever in a short time. This clinical course suggested a diagnosis of psychogenic fever.

Psychogenic fever is not an established, but suspected disease entity. As far as I searched, I could not find many case reports and studies of psychogenic fever. Thus, this case is rare, and instructive for oncologist, because most oncologists do not know this disease entity and many cancer patients possibly experience such a fever.

I recommend the authors to clarify the major and minor points described below and request English proofreading by a native speaker.

Major Compulsory Revisions

1. In another hospital, a diagnosis of lung cancer was established in June 2012. Then, 4 course of chemotherapy probably finished in October 2012. The patient developed fever in November 2012, within one month after last chemotherapy and probably within 2-3 months after thoracic radiotherapy. Chest CT in December 2012(?) showed interstitial fibrosis. Considering clinical course and CT image, radiation pneumonitis was one of possible differential diagnoses. Was this fever caused by radiation pneumonitis? Did the fever spontaneously remit? The authors should clearly deny the possibility of fever caused by radiation pneumonitis.

2. Psychogenic fever is relatively an exclusion diagnosis. Another hospital performed several antibiotics therapies, which were all ineffective for fever. On the other hand, based on the clinical course in another hospital and the physical findings assessed by the authors, the authors tried anti-anxiety agents on the fourth hospital day, which were effective for the fever. Negative bacterial culture is possible even after incomplete antibiotics therapy. Did another hospital thoroughly assessed the origin of fever before initiation of antibiotics therapy, for example, bacterial cultures (sputum, urine, bloods, etc) and collagen disease?
Minor Essential Revisions

1. Psychological fever is a new disease concept but not widely approved. Only a limited number of researchers have reported small numbers of studies on this disease conditions. Probably, many readers do not know this disease. Outline or summary of this disease; epidemiology, characteristics of symptoms, diagnosis criteria, established treatment, mechanisms and so on, would help readers to understand this case report. A part of the first paragraph in the Discussion section (line 107-124 in page 5-6) can be shifted into the Background section (in page 3).

2. In the Case Report section (page 3), TNM classification and clinical staging at the diagnosis of cancer should be described.

3. On line 47-48 in page 3 in Case Report section, the sentence; ‘left lung space-occupying lesion was noted in physical examination’ means that abnormal lesion was detected only by physical findings? Did Chest X-ray and CT scan also contribute the detection of abnormal lesion?

4. On line 49-52 in page 3 in Case report section, the sentence; ‘four cycles of chemotherapy of etoposide plus cisplatin regimen was provided, after which 1 course of concomitant lung radiotherapy treatment was employed,...’ is difficult to understand. This means that chemotherapy was introduced sequentially after completion of thoracic radiotherapy, or radiotherapy was added on preceding chemotherapy?

5. In the 4th (line 75-77, page 4) and 6th (line 88-90, page 4-5) paragraph in Case Report,’the result of 1-3-beta glucan test was less than 10, while both Mycoplasma pneumonia and Clamydia pneumonia antibodies were negative.’was overlapped.

6. The unit of 1-3 beta glucan test should be shown after the ‘10’. In this case, ‘pg/mL?’.

7. On line 65 in page 4 in Case Report section, was ‘nocturnal urinary frequency (5 times/night)’ associated with anxiety or other mental disorders? Did the nocturia cause insomnia?

8. On line 65-67 in page 4 in Case Report section, ‘the patient denied the history of tuberculosis, hepatitis and other infectious diseases, and no family history of hypertension, diabetes or tumor, either.’ They were all results of an interview with the patient. Can the author show any objective data confirming past history or coexisting diseases.

9. The authors should show the full name of the following abbreviations; ‘T 38.2°C’, ‘R 22bpm’, ‘BP 130/85mmHg’ (line 68, page 4, Case Report) and ‘Tc’ (line 121-123, page 6, Discussion) at the first appearance.

From the instruction for authors, ‘If abbreviations are used in the text they should
be defined in the text at first use, and a list of abbreviations can be provided, which should precede the competing interests and authors' contributions.'

10. The detailed results of blood tests are shown in the Discussion section; in the 2nd paragraph (line 127-129, page 6) ‘all the results were within the normal range (white blood cell: 9.4×10^9/L; neutrophil cell: 72.5%; (twice), CRP: C-reactive protein < 3.300mg/L; blood culture results was also negative)’. These data should be described anywhere in Care Report section.

11. The detailed clinical history, physical findings, blood tests and other image examinations are duplicated in the Case Report and the 2nd paragraph of Discussion sections. Most sentences can be deleted from the 2nd paragraph in Discussion section.

12. Dose ‘9.4×10^9/L’ (line 128, page 6) mean ‘9.4×10^9/L’?

13. This episode occurred in 2012. Two years has passed since the patient discharged. Can the authors add information and clinical course after discharge? Did psychogenic fever recur at the time of cancer recurrence? Is this patient still alive?

14. The term ‘hyperthermia’ and ‘stress-induced’ are used in the title of this report, while the term ‘fever’ and ‘psychogenic’ are frequently used in the main text, alternatively. Do the authors use these similar terms for different purposes? Especially, I feel that ‘hyperthemia’ contains exogenous causative factors. Which term is appropriate in this case, ‘fever’ or ‘hyperthermia’ and ‘stress-induced’ or ‘psychogenic’?

15. In the figure legend of Figure 1 (page 10), blue lines and X-marks shows axillary temperature. On the other hand, dose red lines and circles mean changes of heart rate?

16. Although Figure 1 shows intermittent fever, this temperature spontaneously fell down or by antipyretics?

17. On line 78 in page 4, ‘in December 20, 2013 (Figure 2)’. ‘Year 2013’ is mistake?

18. Why did this psychogenic fever occur after completion of chemoradiotherapy? Such a nervous patient is also nervous during aggressive treatment. Was this patient all right mentally in another hospital? Can the author add detailed trajectory of mental and psychological condition?, and discuss onset mechanism of psychogenic fever in this case?

Level of interest: An article of limited interest

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests.