Author's response to reviews

Title: Case Report: Anaesthetic management of radical gastrectomy for gastric cancer associated with anti-N-methyl-D-aspartate receptor encephalitis

Authors:

Hongyu Tan (hongyutan0062@sina.com)
Hongyu Tan (hongyutan0062@sina.com)
Ziyu Li (ligregory@outlook.com)
Jiafu Ji (jijiafu@hsc.pku.edu.cn)
Ping Li (lipingtrhos@126.com)
Zhiyi Fan (13911114196@163.com)
Xuejun Song (songxuejun@bjmu.edu.cn)

Version: 1 Date: 28 Apr 2017

Author’s response to reviews:

Reviewer 1: Matthew John Meyer, M.D.

*Abstract

Reason for challenge: line 19-22, page 1-2

Conclusion commas: line 30-34, page 2

*Introduction

Attack->bind: line 39, page 2


Risk: line 46-50, page 3

*Case presentation
Exacerbated->worsened: line 56, page 3

Work-up: line 59-65, page 3

Identification of the tumour: line 63-65, page 3. Previous tests for paraneoplastic antibodies, PET and electronic gastroscopy did not show an obvious tumour until four months later.

Neurologist’s concern: line 69-71, page 3. Because the neurologist is in another hospital, we cannot obtain more details regarding his concern.

Either CSF or a blood test for NMDAR antibody is of value. Since the patient’s blood had been tested, CSF was not tested before surgery. The patient had already improved before chemotherapy. Chemotherapy was used to reduce tumour staging in order to remove it and to lower the risk of bleeding during surgery instead of a conventional therapy for encephalitis or paraneoplastic syndrome.

First, anti-NMDAR encephalitis is often compared with tumours that may induce the production of NMDAR antibodies, and this disease is difficult to cure completely without tumour resection. Furthermore, we recently retrospectively reviewed details about the patient’s history from his neurologist at the other hospital and found that the patient still exhibited a slight but rare quiver in his left upper limb before surgery. Thus, we concluded that the patient was in convalescence from anti-NMDAR encephalitis at the time of surgery.

*Discussion

As we explained before, we concluded that this patient still had anti-NMDAR encephalitis at the time of surgery.

There was no interval check on NMDAR antibodies in addition to the initial diagnosis and immediately prior to surgery. The lack of additional measurements may be because the tests are not easy to carry out and can only be done in several designated hospitals in our city.

(PNS) deleted: line 114, page 6.

Reorganize the relationships between anaesthesia medications and intraoperative / post-operative concerns: line 108-162, page 6-8.

Lapedbie’s report: line 146-149, page 8; line 172-175, page 9.

Anti-NMDAR encephalitis is a rare disease, and detailed reports about the surgery/ anaesthetic management of these patients are limited, as mentioned in our manuscript. The conditions of the cases reported by Chen W et al. and Lapedbie at al. all deteriorated to some degree after anaesthesia/surgery, although all cases ultimately survived (line 163-164,172-175, 180-184, page 8-9). These findings may also support the supposition regarding the three unreported cases in another hospital. We apologize for not finding other published case studies. In addition, the
current lack of published case studies is why we want to report our case; this case will provide more clinical details for further clinical studies of this disease.

Reviewer 2: Shalini Raj Lawrence, MBBchir MRCP FRCA

Thank you for your opinion. The aetiology and incidence remain unclear and controversial (line 103-104, page 5). Due to the limitations on space, we only added slightly more information regarding the possible pathogenesis, aetiology and medical management of this disease (line 108-120, page 6). In addition, we spared more space for the anaesthetic management of this disease, which is the key point of this manuscript.

Reviewer 3

1. We apologize for the mistake regarding the length of the hospital stay after we rechecked the medical records. The patient was actually discharged on the 26th post-operative day after his recovery and the risk of recurrence of anti-NMDAR encephalitis were evaluated (line 96-97, page 5).

2. Among the frequently used anaesthetic drugs that we mentioned in the manuscript, there was no NMDA receptor agonist. Do you mean NMDA receptor antagonists? NMDAR antagonists can inhibit the glutamate-triggered calcium influx of NMDAR, and the dysregulation of NMDAR may induce the same symptoms as those observed in anti-NMDAR encephalitis, instead of unpredictable results. Since the effects of certain anaesthetic drugs on NMDAR still remain unclear, we cannot provide a more accurate explanation of the mechanism (line 123-128, page 6-7). We think that the reverse action of the anaesthetic drugs inhibiting NMDAR is theoretically predictable, but there is a lack of reports regarding the clinical effects of these drugs on this type of patient or related experimental research.