



OPEN ACCESS

Male with watery rhinorrhoea and disturbed consciousness after trauma

Takuya Hachisu,¹ Kazuhiro Omura,^{1,2} Nobuyoshi Otori,² Yasuhiro Tanaka¹

► Additional material is published online only. To view please visit the journal online (<http://dx.doi.org/10.1136/bcr-2017-222288>).

¹Department of Otorhinolaryngology, Dokkyo Medical University Koshigaya Hospital, Saitama, Japan

²Department of Otorhinolaryngology, The Jikei University School of Medicine, Tokyo, Japan

Correspondence to

Dr Kazuhiro Omura,
kazuhiro.omura@gmail.com

TH and KO contributed equally.

Accepted 22 October 2017

DESCRIPTION

A 74-year-old man presented to the emergency department with slightly impaired consciousness (Glasgow Coma Scale (GCS): E3V5M6) after a fight while drinking alcohol. The next day, he developed a strong headache and gradually deteriorating consciousness (GCS: E3V4M6) with watery rhinorrhoea (see online supplementary video 1). CT showed air between the tips of the frontal lobes, the so-called 'Mount Fuji sign', with fractured bone within the anterior skull base 2 days after the trauma (figure 1A,B). The patient was admitted to the operating room for endoscopic reconstruction of the fractured area of the posterior wall of the frontal sinus (figure 2, white star). Withered brain parenchyma (figure 3, white dot) and a cerebral vein, (figure 3, white arrow) were seen with the endoscope (see online supplementary video 2) and reconstructed with fat and fascia from the thigh covered with bilateral inferior turbinate flap. The patient made

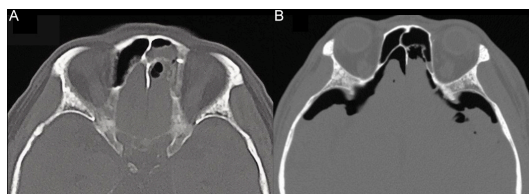


Figure 1 (A) CT with axial view on the day of trauma—small pneumocephalus around the tip of left frontal lobe. (B) CT with axial view 1 day after trauma. 'Mount Fuji sign'—the amount of air between the tips of the frontal lobes increased progressively.

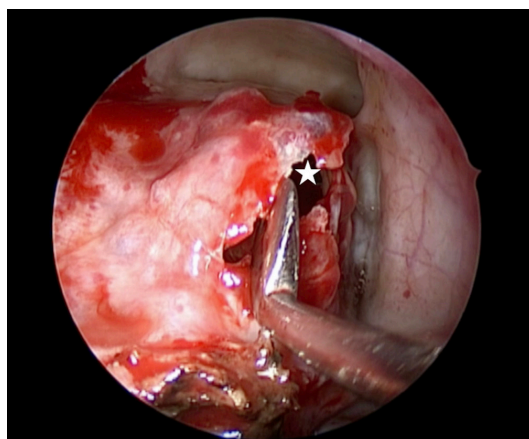


Figure 2 Endoscopic view of fracture site of the posterior wall of frontal sinus (star).

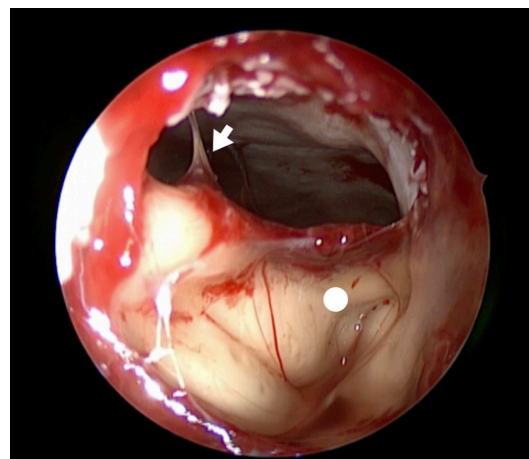


Figure 3 Endoscopic view of intracranial resion. Withered brain parenchyma (white dot) and a cerebral vein (white arrow).

Learning points

Tension pneumocephalus is an uncommon and life-threatening neurosurgical emergency that may lead to progressive brain compression resulting in deteriorating mental status. Immediate attention and proper management are required to prevent fatal complications.^{1,2} The 'Mount Fuji sign' on brain CT is key to the diagnosis of tension pneumocephalus.³

a full recovery after the operation. Seventeen months passed after surgery with no evidence of recurrence based on both endoscopic evaluation and radiographic analysis.

Contributors TH designed the study and KO wrote the initial draft of the manuscript. NO contributed to analysis and interpretation of data, and assisted in the preparation of the manuscript. YT contributed to data collection and interpretation. KO critically reviewed the manuscript. All authors approved the final version of the manuscript, and agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

Open Access This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided



CrossMark

To cite: Hachisu T, Omura K, Otori N, *et al.* *BMJ Case Rep* Published Online First: [please include Day Month Year]. doi:10.1136/bcr-2017-222288

the original work is properly cited and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>

© BMJ Publishing Group Ltd (unless otherwise stated in the text of the article) 2017. All rights reserved. No commercial use is permitted unless otherwise expressly granted.

REFERENCES

- 1 Monas J, Peak DA. Spontaneous tension resulting from scalp fistula in a patient with a remotely placed ventriculoperitoneal shunt. *Ann Emerg Med* 2010;56:378–81.
- 2 Wood BJ, Mirvis SE, Shanmuganathan K. Tension pneumocephalus and tension orbital emphysema following blunt trauma. *Ann Emerg Med* 1996;28:446–9.
- 3 Ishiwata Y, Fujitsu K, Sekino T, *et al.* Subdural tension pneumocephalus following surgery for chronic subdural hematoma. *J Neurosurg* 1988;68:58–61.

Copyright 2017 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow