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LETTER TO THE EDITOR

Posterior Reversible Encephalopathy Syndrome as a Rare Cause of Reversible Postoperative Quadriplegia

Hyperthemic intraperitoneal chemotherapy (HIPEC) is a rare therapy for patients with peritoneal carcinomatosis but is often well tolerated. Posterior reversible encephalopathy syndrome (PRES) is an uncommon cause of postoperative paraplegia or visual loss, and is associated with hypertension, eclampsia, immunosuppression, transplantation, various autoimmune diseases, renal failure, and sepsis.[1] Diagnosis of PRES can be confirmed with classical brain magnetic resonance imaging (MRI) findings of bilateral parieto-occipital lesions although lesions may occur throughout the brain.[2] Early diagnosis with prompt symptomatic treatment, and a timely control of the causative factor may limit the global impact for the patient.[3] The course of PRES may be reversible within 1 week, although cases of residual neurological damage and up to 16% mortality have been reported.[4,5] Here, we report a patient with colon cancer who developed PRES in the postoperative period.

A 45-year-old previously healthy female patient with a tissue-proved colonic adenocarcinoma, status being post right hemicolectomy, was scheduled for cytoreduction surgery and HIPEC on November 22, 2012. An awake thoracic epidural in the T9/T10 intervertebral space was inserted, after which an intravenous general anesthesia with an arterial line and an inserted left central venous catheter was induced. She was transferred to the surgical intensive care unit at the end of an uneventful 10-hour surgery with the epidural anesthesia as the postoperative pain control. She was extubated the following day, and transferred to the general surgical ward. Her epidural catheter was removed on the next day. On November 26, 2012 (postoperative Day 4), she reported to have fluctuating numbness and tingling sensation of her upper limbs, which progressed to left hemiparesis with visual disturbances. Due to the rapid symptom progression, she received an urgent brain computed tomography, which excluded possible intracranial bleeding or mass lesions. A diagnosis of PRES was made after a brain MRI showed bilateral occipital lesions (Figure 1). She received intravenous ceftriaxone for fever due to possible bacterial infections. After worsening Glasgow coma scale score of M3V3E4, with quadripareis and visual loss, she was transferred to the surgical intensive care unit and was later intubated due to respiratory muscle weakness. She also had *grand mal* seizures that were controlled with intravenous lorazepam. A nicardipine infusion was also used for controlling of her elevated blood pressure. Repeated brain MRI two days later failed to show any interim change (Figure 1). Under supportive care her vital signs was stabilized without any seizures. On November 28, 2012, she could move her right hand and

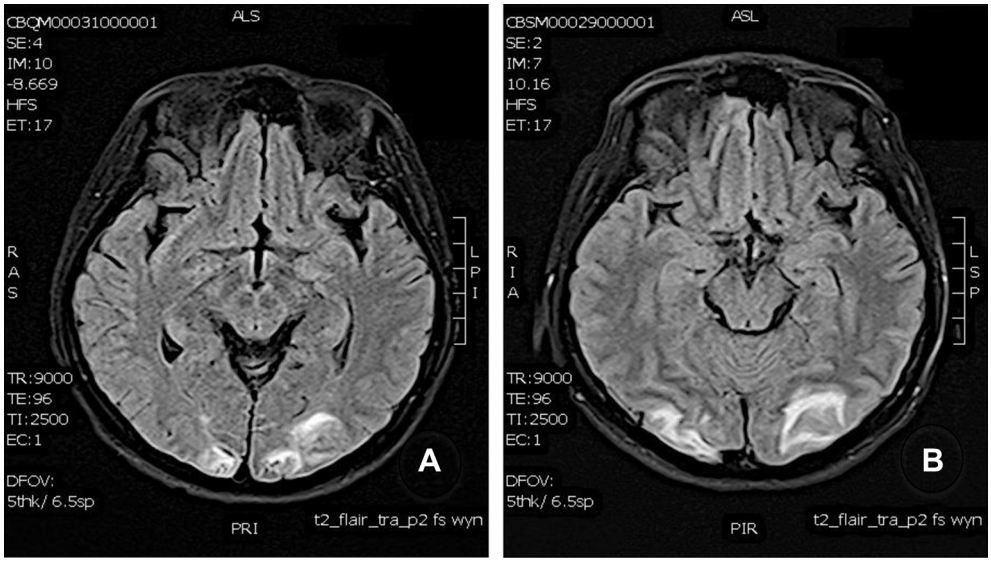

Figure 1 (A) Magnetic resonance imaging of the brain in coronal T2-weighted images showing bilateral cerebral edema involving the occipital lobes on November 26, 2012. (B) Follow-up magnetic resonance imaging of the brain 2 days later with no significant changes.

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nodded on command, with an improving Glasgow Coma Scale score of M6VtE4. After an 8-day weaning, she was extubated successfully. The differential diagnoses of her symptoms and signs included residual local anesthetic toxicity, spinal hematoma/abscess, stroke, meningeal carcinomatosis, infectious menigoencephalitis, Creutzfeldt–Jakob disease, cerebral venous thrombosis, and adult-onset epilepsy. These were progressively ruled out by the findings of a negative cerebral spinal fluid study, a normal electroencephalogram, serial brain MRIs, and her clinical course. Despite a complete recovery of muscle power on the right, she remained left hemiplegic on a follow-up visit 2 months later.

References

1. Hinchey J, Chaves C, Appignani B, Breen J, Pao L, Wang A, Pessin MS, et al. A reversible posterior leukoencephalopathy syndrome. *N Engl J Med* 1996;**334**:494–500.
2. Stevens CJ, Heran MKS. The many faces of posterior reversible encephalopathy syndrome. *Br J of Radiol* 2012;**85**:1566–75.
3. Inoue S, Kawaguchi M, Furuya H. A case of posterior reversible encephalopathy syndrome after emergence from anesthesia. *J Anesth* 2012;**26**:111–4.
4. Legriel S, Schraub O, Azoulay E, Hantson P, Magalhaes E, Coquet I, Bretonniere C, et al. Determinants of recovery from severe posterior reversible encephalopathy syndrome. *PLoS One* 2012;**7**:e44534.
5. Barbara DW, Smith BC, Onigkeit JA. Posterior reversible encephalopathy syndrome as a cause of postoperative blindness: images in anesthesiology. *Anesthesiology* 2012;**116**:472.

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