中文題目：輸血誘發可逆性後腦病變症候群

英文題目：Posterior reversible encephalopathy syndrome induced by blood transfusion

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Introduction:

PRES (posterior reversible encephalopathy syndrome) is a clinico-radiological syndrome and most associated with acute hypertension. Commonly, the patients can present with wide variation of neurological signs and brain MRI may reveal vasogenic edema. Recently, some case reports present that massive blood transfusion may be a trigger of PRES. In this report, we will present a woman suffering from headache and status epilepticus after massive blood transfusion.

Case presentation:

A 42 year-old female who had no chronic medical disease admitted to our hospital due to general weakness, dizziness for more than two week and near syncope before hospitalization. Laboratory data on admission showed severe anemia with hemoglobin level as 3.4g/dl and hematocrit as 10.5%. Other laboratory data included WBC count with differential count, platelet level, renal function test, liver function test and autoimmune tilters were all in normal limit. There were no gastrointestinal bleeding of the patient due to negative of stool occult blood and no internal bleeding, but menorrhagia was noted by the patient. After admission, blood transfusion with packed RBC four units per day was done for two days and her hemoglobin level increased to 9.1g/dl. However, the patient felt diffuse headache at sixth day of hospitalization. Besides, confused consciousness was also noted and status epilepticus occurred later. Anticonvulsant and midazolam were used for seizure control and intubation was done for protection of airway. Brain CT showed no hemorrhage nor space occupying lesions. Lumbar puncture was done and CSF data revealed an increase in protein level (52mg/dl). Brain MRI disclosed multiple hyperintensity of T2WI and FLAIR at cortex of bilateral frontal,parietal and occipital lobes with mild hyperintense of DWI at parietal lobe and PRES was highly suspected. The systolic blood pressure of the patient during hospitalization was about 125mmg. Under the suspicion of PRES due to massive blood transfusion related, conservative treatments with intravenous fluids, antiepileptics and monitoring of blood pressure were given. No more seizure occurred since the 8^{th} day of hospitalization and her consciousness improved gradually. Extubation was done at 10^{th} day and she was discharged three days later without significant neurological sequeallae.

Discussion:

Posterior reversible encephalopathy syndrome (PRES) is a clinical-radiological disease which presents subcortical vasogenic brain edema especially in the bilateral parieto-occipital regions in brain magnetic resonance imaging (MRI). The patients with PRES have acute neurological symptoms, such as conscious disturbance from mild confusion, agitation to coma, headache, seizure, and various visual disturbances but the prognosis of this disease is generally good. PRES usually occurs in patients with acute severe hypertension. However, it is also seen after blood

transfusion especially rapid and massive transfusion. Blood transfusion may cause a rapid increase in total blood volume, which further leads to cerebral blood flow overload. This increase could induce acute vascular endothelium dysfunction and an elevation of vascular resistance, leading to endothelial damage and extravascular leakage of fluid and macromolecule in the brain. In treatment, we should monitor and control the patient's blood pressure level, and add anticonvulsant if seizure attack. Besides, for patients who have history of PRES after blood transfusion, we need to perform the blood transfusion slowly with carefully monitoring the increase of Hb levels.

Conclusion:

PRES may be a serious complication of massive blood transfusion. Some case reports present that PRES could happened even one or two weeks after blood transfusion. Thus for patients with massive blood transfusion, a high index of suspicion and prompt treatment can reduce morbidity, mortality and increase early recovery.