

CLINICAL PICTURE

Cord sign in cerebral venous thrombosis

A 78-year-old female presented at emergency department with seizure. She had medical history of endometrial cancer. Her initial Glasgow Coma Score was E4V1M5. Laboratory examinations showed platelet 186 000/ul, glucose, 144 mg/dl, prothrombin time, 10.2 s and activated partial thromboplastin time, 22.8 s. A computed tomography (CT) revealed acute intraparenchymal hemorrhage over right frontoparietal region, intraventricular hemorrhage with hemohydrocephalus and cord sign—a hyperdensity within transverse sinus, which indicated dural sinus thrombosis (Figure 1A, white arrows). Further contrast-enhanced CT confirmed the presence of superior sagittal and left transverse sinus thrombosis (Figure 1B, black arrows). Therefore, external ventricular drainage was implemented, and anti-coagulant was used. Although there was no more seizure and neurologic status became stable, persistent hydrocephalus was noted and ventriculoperitoneal shunt was done. Because of difficult-to-wean, she received tracheostomy later and was transferred to respiratory care ward for long-term care after about 3 months of hospitalization.

Cerebral venous thrombosis is a rare disease, but it can be associated with significant morbidity and mortality. The presentations of cerebral venous thrombosis vary and may include headache, papilledema, intracranial hypertension, cranial nerve palsies, intracerebral hemorrhage, focal neurological deficit, seizures and altered mental status.¹ Because of its non-specific sign and symptoms, delay in diagnosis is common. Despite CT

may be normal in about one-third of cases, some direct signs of cerebral venous thrombosis, such as dense triangle sign on non-contrast CT—a hyperdensity with a triangular shape in the posterior part of superior sagittal sinus, empty delta sign on contrast-enhanced CT, and cord sign²—a curvilinear hyperdensity over the cerebral cortex, such as the present case. In conclusion, clinicians should have a high index of suspicion for this rare clinical entity—cerebral venous thrombosis to ensure timely diagnosis and promptly anti-coagulant therapy.

Photographs and text from: Y.-H. Kuo, Department of Hemato-oncology, Chi-Mei Medical Center, Tainan, Taiwan; College of Pharmacy and Science, Chia Nan University, Tainan, Taiwan; C.-M. Chao and C.-C. Lai, Department of Intensive Care Medicine, Chi Mei Medical Center, Liouying, Tainan, Taiwan. email: dtmed141@gmail.com

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References

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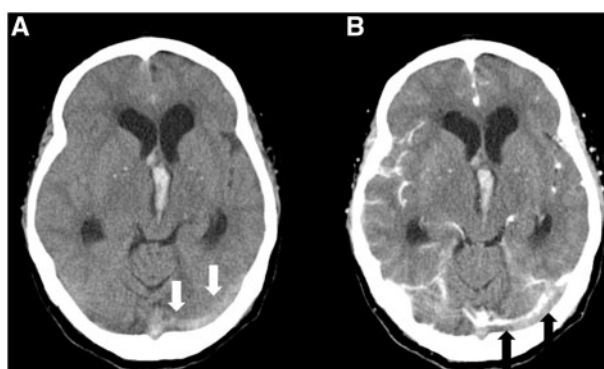


Figure 1. (A) Cord sign—a hyperdensity (white arrows) within transverse sinus on non-contrast CT, (B) transverse sinus blockage (black arrow) on contrast CT.