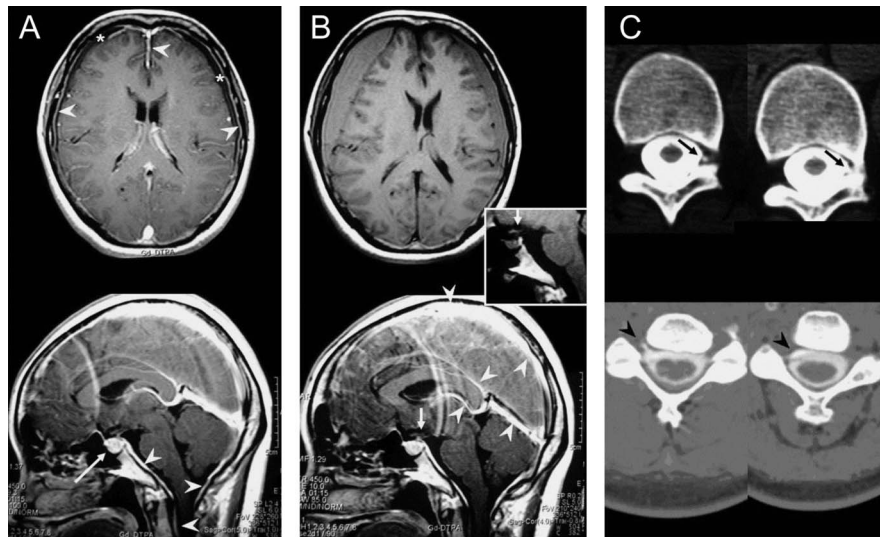


# Teaching NeuroImages: Subdural hematoma with pseudo-intracranial hypertension

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**Figure** Findings of MRI of the head and CT myelography



(A) At admission, post-gadolinium T1-weighted MRI showed subdural hematomas (SDH, asterisks), pachymeningeal enhancement (arrowheads), and pituitary enhancement/enlargement (arrow). (B) Two weeks after bed rest and hydration, pre-gadolinium (upper panel and inset) and post-gadolinium (lower panel) T1-weighted MRI demonstrated progression of the SDH with compression of the right lateral ventricle, right-to-left midline shift, and downward displacement of the optic apparatus (arrows), but pachymeningeal enhancement and pituitary enhancement/enlargement suggestive of CSF volume depletion due to CSF leak could still be seen on post-gadolinium image (lower panel) in comparison with pre-gadolinium image (inset). Also note minimal improvement of the engorgement of the venous structures (arrowheads) following conservative treatment, suggesting ongoing CSF leak. (C) CT myelography revealed low pressure (40 mm H<sub>2</sub>O) and multiple CSF leaks at T11-12 (upper panels, arrows) and C4-5 (lower panels, arrowheads) levels, which were subsequently treated with epidural blood patches.

A 40-year-old woman presented with worsening headache accompanied by vomiting, anorexia, and tinnitus. The headaches were initially orthostatic. MRI showed chronic progressive subdural hematomas (SDH) with significant mass effect, diffuse pachymeningeal enhancement, and pituitary enhancement/enlargement (figure, A and B), indicating intracranial hypotension due to spontaneous spinal CSF leak, which was confirmed by CT myelography (figure, C). CSF leak is an important cause of SDH,<sup>1</sup> which, by clinical and radiologic manifestations, may give the false impression that the patient has intracranial hypertension but without papilledema or hydrocephalus, termed pseudo-intracranial hypertension. This recognition is crucial because both conservative measures to decrease intracranial pressure and evacuation of the SDH are harmful.<sup>1,2</sup>

## AUTHOR CONTRIBUTIONS

Dr. Xing-Lin Tan: study concept and design, drafting and revising the manuscript, acquisition, analysis, and interpretation of data. Dr. Bo Xiao: acquisition, analysis, and interpretation of data. Dr. Qi-Dong Yang: acquisition, analysis, and interpretation of data. Dr. Qing Huang: acquisition, analysis, and interpretation of data. Dr. Lan Xiao: analysis and interpretation of data. Dr. Bei-Sha Tang: analysis and interpretation of data, study supervision.

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