

## Answer to medical quiz: images

1. Effacement of cerebral sulcus, swollen gyrus, compressed ventricle, grey-white differentiation is reduced that is suggestive of cerebral edema.
2. Occlusion of the major venous sinuses.
3. Cerebral venous thrombosis.
4. Antithrombin, protein C, protein S, factor V Leiden, homocysteine, lupus anticoagulant and anticardiolipin antibodies.

### REVIEW

Cerebral venous sinus thrombosis (CVST) refers to any clot in the cerebral venous system.<sup>1</sup> Recent study suggested a higher incidence, 13 per million per year. It can affect all ages but is predominant in young people, with an estimated incidence of 3 to 4 per million in adults and 7 per million in children. CVST is associated with sex predilection with a 3:1 ratio in women compared with men.<sup>2</sup> It is associated with more than 100 reported risk factors. These risk factors are either hereditary or acquired. Hereditary risk factors are homocysteinemia, factor V Leiden homozygous mutation, G20210A prothrombin gene, protein C, protein S and anti-thrombin III deficiency, positive anticardiolipin or antiphospholipid antibodies. Acquired risk factors include brain tumors, central nervous system infections, intracranial hypotension, extracerebral neoplasia, dural fistulas, hematological conditions, nephrotic syndrome, systemic vasculitis, drugs, pregnancy etc.<sup>3,4</sup>

The diagnosis of CVST is mainly radiological, either by CT scan or magnetic resonance imaging (MRI) or invasive angiography. CT scan of brain can be used to diagnose CVST by looking for direct and indirect signs. The direct signs include visualizing the thrombus in the affected vessel, while the indirect signs involve damage to brain parenchyma from ischemia or vascular changes

related to venous outflow disturbance. Indirect signs include brain edema and swelling of the gyri, multiple infarcts, hydrocephalus, compression of the fourth ventricle, venous infarction etc. CT venography (CTV) is a reliable test to diagnose CVST with a reported sensitivity of 95%. Some disadvantages of CTV are exposure to radiations, contrast-related allergy and nephrotoxicity. Because of these concerns, magnetic resonance venography (MRV) has been preferred to CTV.<sup>2</sup> Therapeutic goals include relieving the venous drainage obstruction, treating raised intracranial pressure and seizure and managing the sequelae such as hydrocephalus and intracranial hemorrhage.<sup>5</sup>

**Authors' contribution:** MRI diagnosed and managed the case, drafted the manuscript. TR reviewed the paper.

**Conflicts of interest:** Nothing to declare.

### REFERENCES

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