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Bilateral Thalamic Oedema: An unusual case of reduced speech output in a 16 year old patient

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HISTORY AND BACKGROUND : A previously fit and well 16 year-old school girl presented to the acute medical unit with an acute onset of strange behaviour and reduced speech output. Collateral history from her mother revealed gradually worsening headaches over the 2 weeks worse on lying down and in the morning. Past medical history was unremarkable. She was on no regular medication and illicit substance use was denied.

EXAMINATION AND INVESTIGATIONS: On examination the patient was dysphasic with limited speech output and ability to obey commands. GCS was 15/15. There were no signs of meningism and only mild papilledema on fundoscopy. Otherwise there was no focal neurological deficit. She was afebrile and normotensive. Routine blood tests were within the normal range.

DIFFERENTIAL DIAGNOSIS AND INITIAL MANAGEMENT: The differential diagnosis of an acute presentation of a young girl with speech and behavioural changes in the context of longer standing positional headache and mild papilloedema included CNS infection (i.e. herpes simplex encephalitis), a space occupying lesion, undisclosed illicit substance use, a possible psychiatric cause and sinus venous thrombosis. The patient was empirically treated with IV aciclovir while brain imaging was arranged.

MANAGEMENT AND OUTCOME: The patient symptoms improved significantly on anticoagulation and she continued on warfarin (INR target 2-3) for 6 months. Further assessment by haematology did not reveal any prothrombotic risk factors. MRI brain imaging 9 days later revealed complete resolution of the signal changes in both thalami as well as blood clot in the straight sinus. Neuropsychology follow-up confirmed improvement in cognitive impairment and she has since returned to school.

DISCUSSION: This case highlights the importance of rapid diagnosis and management of sinus venous thrombosis particularly in view of the impending infarction of both thalami.

Key Learning Points: Sinus venous thrombosis is a life threatening condition, if investigated and treated promptly there can be full reversal of symptoms. There should be a high index of suspicion for sinus venous thrombosis in those presenting with headache, in this case symptoms were initially wide ranging with a number of differentials. Classically sinus venous thrombosis presents with cortical infarction and haemorrhage.1 However bilateral thalamic involvement is an extremely rare presentation. This patients pattern of neurological deficit is an example correlating clearly with thalamic involvement. The mechanism of which is due to venous outflow obstruction to the thalamus secondary to thrombosis. Non-contrast CT normally has low sensitivity for demonstrating changes in sinus venous thrombosis however subtle signs (i.e. hyper dense straight sinus) are useful markers and require specialist radiological review. Because of this, CT Venogram and MRI imaging should be sought as these are the most sensitive modalities to accurately diagnose this condition.

Biography

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