

Introduction

Pregnant ladies in early stages of pregnancy often visit the emergency department with nausea and vomiting. They are usually diagnosed as *hyperemesis gravidarum*, which has a prevalence of up to 10% in women with Asian ethnicities.¹ Cerebral venous sinus thrombosis (CVST) during pregnancy is an uncommon diagnosis, with an estimated annual incidence of 5 per million.² It can present with a range of symptoms, and often left undiagnosed.

Case Report

A 37-year-old (gravida 5, para 4) at 8 weeks of pregnancy presented with nausea and vomiting for the past 2 weeks. She was treated as *hyperemesis gravidarum* during 2 previous visits. However, further history revealed left-sided headache over the past 2 weeks, which was described as "the worst headache in her life" a night before presentation. She was otherwise well, with previous uneventful pregnancies, and was not taking any oral contraceptives. On arrival, she had a pain score of 10/10 with normal vitals and no neurological deficit. An hour later, headache persisted despite being treated with opioids, and she got drowsy. There was an episode of documented raised blood pressure 169/113mmHg since arrival. She was re-examined and was found to have generalised reduction of motor power to 3/5, but there were no meningeal signs. Her routine laboratory investigations were unremarkable, while urinalysis showed ketone 2+ and no protein. Non-contrasted computerised tomography (CT) of the brain demonstrated a large left temporal acute intraparenchymal haemorrhage with perilesional oedema measuring 2.8cm x 3.1cm x 4cm (Figure 1). She proceeded with magnetic resonance imaging (MRI) (Figure 2), venography (MRV) (Figure 3) and angiography (MRA) (Figure 4) of the brain which showed left transverse and sigmoid sinus thrombosis causing left temporal intraparenchymal haemorrhage. Neurosurgical team was consulted, and she was started on Levetiracetam and subcutaneous Enoxaparin. She was later discharged with full neurology.

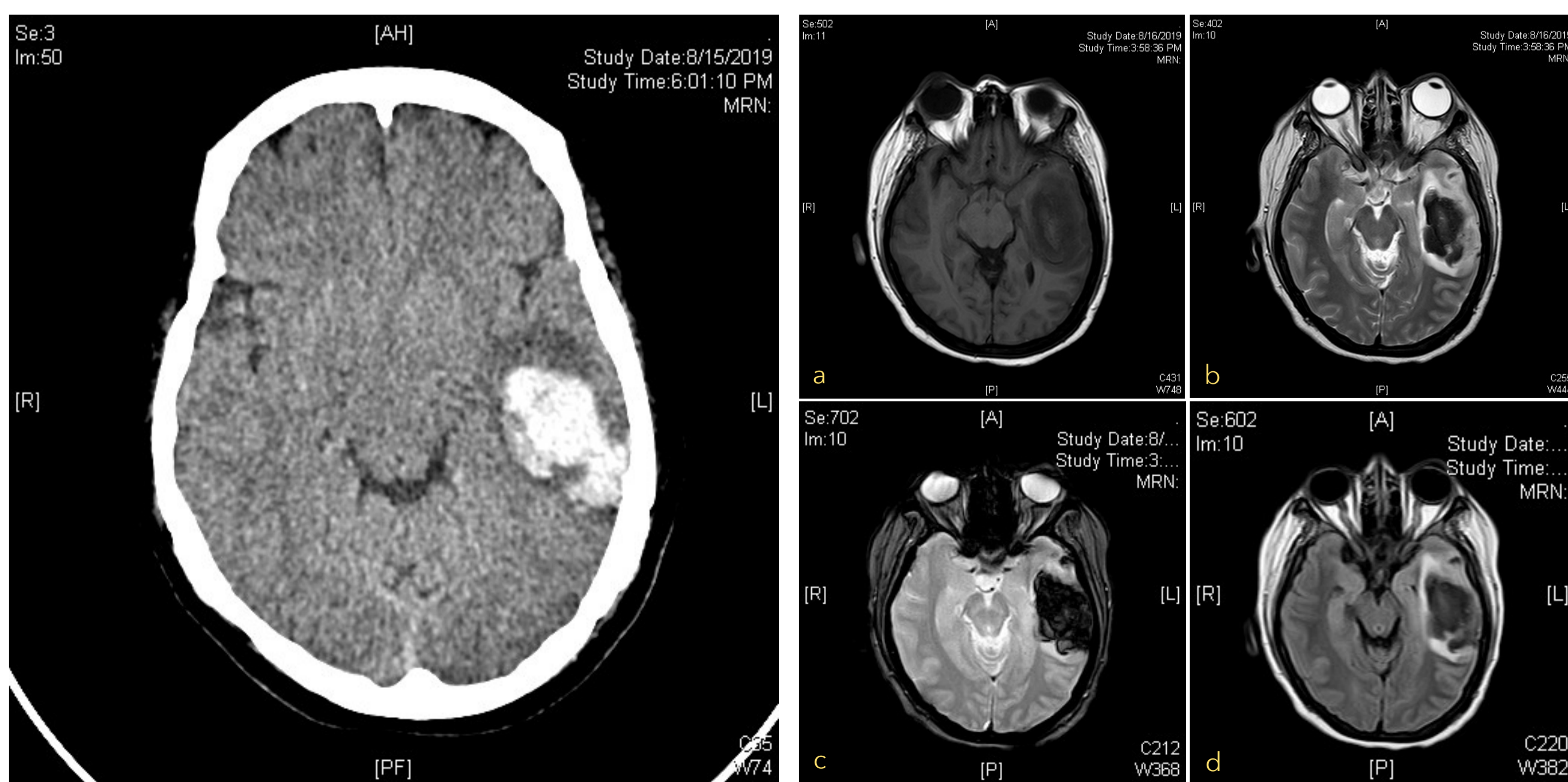


FIGURE 1: Non-contrasted CT brain showed acute intraparenchymal haemorrhage with perilesional oedema at the left temporal region

FIGURE 2: MRI brain showed iso-intense region on T1 (a), and blooming artefacts on T2 (b), GRE (c) and FLAIR (d) indicating blood product at the left temporal region

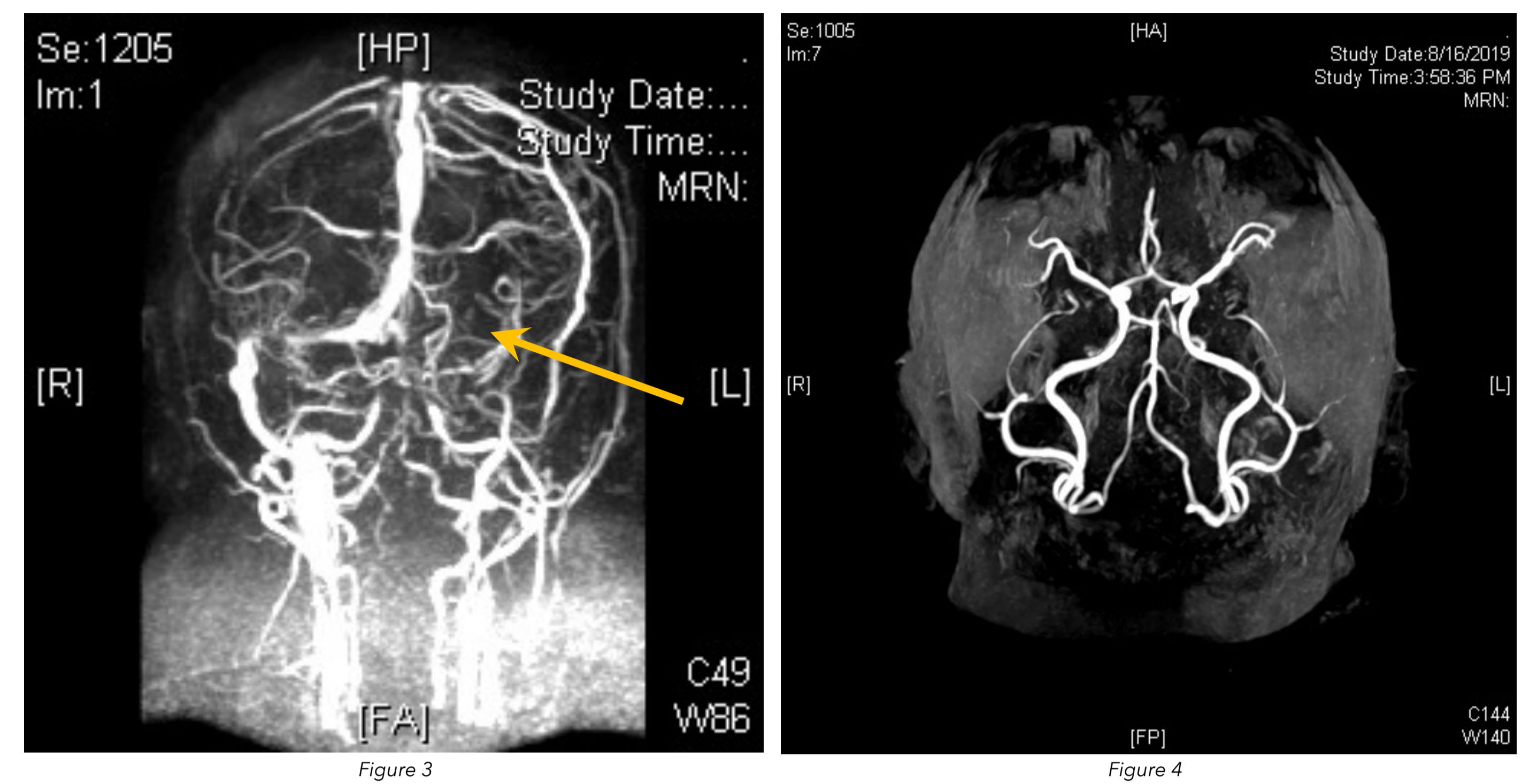


FIGURE 3: MRV showed no flow signal within left transverse and sigmoid sinuses (shown by arrow)

FIGURE 4: MRA showed normal flow signal within the medium and large arteries, with no aneurysm, stenosis or arteriovenous malformation

Discussion

CVST is rare and has various clinical presentations (Table 1) thus making the diagnosis a challenge.

| Common | Headache (74%), seizures (50%), coma / obtundation (45%), motor weakness (38%), visual disturbances (24%) ³ |
|-------------|--|
| Less common | Nausea (17%), vomiting (23%), numbness (8%), neck stiffness (8%), dysarthria / aphasia (8%), photophobia (5%) ³ |

TABLE 1: Clinical presentations of CVST

The common pathophysiology of CVST includes the hypercoagulable state in pregnancy and use of oral contraceptives. Neuroimaging aids in the diagnosis of CVST. A non-contrasted CT brain is helpful in patients with neurological deficit.⁴ The gold standard is the combination of MRI to visualise the thrombosed vessel and MRV to detect the non-visualisation of the same vessel² - often the superior sagittal sinus, left and right transverse sinuses.⁴ Anti-coagulation is the main treatment, regardless of co-existent intracerebral haemorrhage.⁵ Enoxaparin, a low-molecular weight heparin is safe, and does not cross the placenta.³

Conclusion

The symptoms of *hyperemesis gravidarum* can mask acute cerebral disorders like CVST. Thorough history and physical examination are important in prompting clinicians to consider other differential diagnoses, especially with the presence of neurological deficit. Most clinicians hesitate to perform CT brain in pregnant ladies due to the myth of foetal radiation. However, the use of CT brain with its low radiation dose of <0.1mGy should not be withheld if clinically indicated.⁶ The prognosis of CVST is favourable if treatment is initiated before clinical deterioration.³

References

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