Case Report

Isolated thrombosis of the vein of Labbe — Clinical and imaging features

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Abstract

We report the case of a normally fit and well 27 year old female, who presented to the Medical Assessment Unit with ongoing headaches, photophobia, nausea and one episode of vomiting. Cranial Computed Tomography identified a wedge shape low density area in the right temporal lobe consistent with a venous infarct, which contained areas of acute haemorrhage. Further cranial magnetic resonance imaging confirmed the diagnosis of a thrombosed vein of labbe. This is a rare clinical finding. Her only risk factor was the recent commencement of the combined oral contraceptive pill. She was commenced on low molecular weight heparin and warfarin. Serial six month imaging revealed complete resolution of the thrombus.

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Keywords: Headaches; Thrombosis; anticoagulation; contraceptive pill

A 27-year-old female presented with intermittent right sided headaches increasing in severity over the previous 6 days. She complained of mild photophobia, nausea, and had one episode of vomiting. The headache improved on lying supine.

Her current regular medication was the combined oral contraceptive pill which she had commenced 3 months previously. There was no significant medical history and she was a nonsmoker.

Clinical examination was unremarkable. In particular, she was afebrile with no focal neurology or signs of meningitis. Fundoscopy was normal.

Initial blood screen revealed no significant abnormalities. Differential diagnosis at this stage included subarachnoid hemorrhage and encephalitis.

She proceeded to have cranial computed tomography which revealed a wedge shaped low density in the right temporal lobe, suggestive of a venous infarct, which contained areas of acute hemorrhage (Figure 1). A hyperdense tubular structure was present lateral to the temporal lobe consistent with a thrombosed vein of Labbe. Cranial magnetic resonance imaging (MRI) confirmed the diagnosis of isolated thrombosis of this cortical draining vein with secondary venous congestion and hemorrhagic infarction of the right temporal lobe (Figures 2 and 3).

She was commenced on warfarin and clexane until a therapeutic international normalised ratio (INR) was achieved. Her thrombophilia screen was normal. It was concluded that the likely cause of this presentation was the oral contraceptive pill (OCP). She improved rapidly following treatment, and was discharged to continue anticoagulation for 6 months. Serial MRI confirmed progressive resolution of intracranial abnormalities, and she remains well 6 months postdischarge.

The vein of Labbe, or inferior anastomotic vein, is part of the superficial central venous system and drains the temporal lobe and tissue adjacent to the Sylvian fissure. It connects the superficial middle cerebral vein draining into the transverse sinus. The superior anastomotic vein of Trolard is usually smaller, connecting the superior sagittal sinus and the superficial middle cerebral vein.

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Thrombosis of the vein of Labbe is uncommon. Reported cases are usually left-sided and also tend to be part of a more extensive dural sinus thrombosis. Isolated right-sided vein of Labbe thrombus is rarely described.\(^2\)

The clinical presentation of vein of Labbe and cortical venous thrombosis is variable and will depend upon the site and extent of venous involvement. Headaches and seizures are most commonly described, and a wide variety of neurological findings may occur including memory disturbance, aphasia, dysarthria, and pyramidal weakness.

Risk factors for thrombosis include the oral contraceptive pill, pregnancy, and the puerperium and central nervous infection or malignancy.\(^5\) There are two previous reports of isolated vein of Labbe thrombosis associated with oral contraceptive use, both of which were left-sided.\(^6,7\)

It is recognized that due to the wide number and diverse anatomy of the cortical veins, thrombus involving these vessels can be difficult to diagnose both clinically and radiologically. The vein of Labbe in particular can vary in its relation to the temporal lobe surface. On imaging, the presence of a hemorrhagic temporal lobe infarct should alert clinicians to the possibility of this condition in the appropriate clinical context.

Due to the rarity of isolated cortical venous thrombus, data on prognosis is limited, although outcomes are generally favorable, with symptoms and signs usually resolving in a few weeks if diagnosed and treated early. In reported studies, a 6%
inpatient mortality was described (usually in patients with underlying pathology) with 80% of patients receiving anticoagulation, although the benefits of anticoagulation still remain unclear.\textsuperscript{3,8}

In conclusion isolated thrombosis of Labbe is an unusual condition. A high index of clinical suspicion and early utilization of imaging, in particular MR and MR venography, will allow early diagnosis and appropriate treatment.

Conflicts of interest

All authors have no conflicts of interest to declare.

References


