

**IMAGES IN EMERGENCY MEDICINE**

## Neurology

# A woman presenting with facial droop

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## 1 | A WOMAN PRESENTING WITH FACIAL DROOP

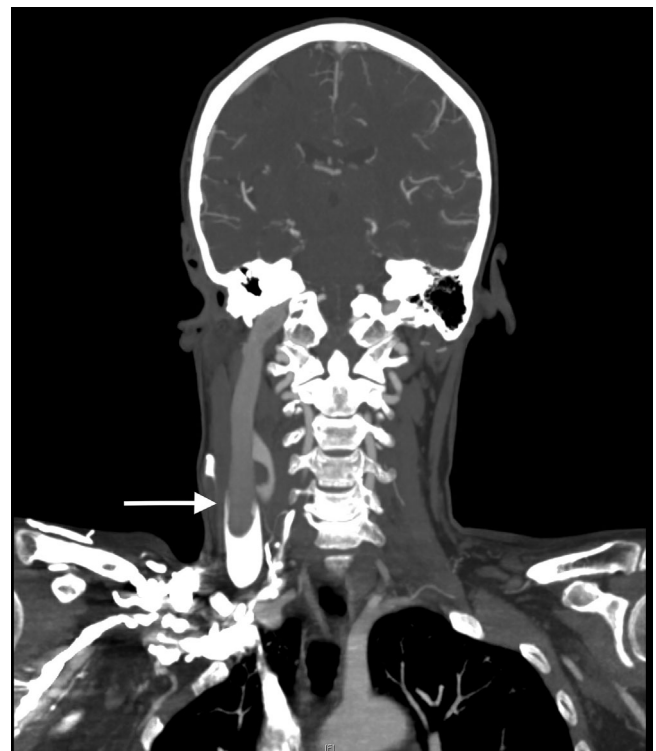
### 1.1 | Patient presentation

A 55-year-old female with no known medical history presented to the emergency department with acute-onset left facial droop and arm and leg weakness. Neurology was consulted for dense hemiplegia and computed tomography angiography (CTA) of the head and neck showed a large thrombus in the right internal carotid artery (Figure 1). Laboratory workup was notable for a platelet count of 1,797,000/ $\mu\text{L}$  ( $1797 \times 10^9/\text{L}$ ) without elevation in other cell lines. An emergent review of the peripheral blood smear showed substantial platelet aggregation with enlarged platelets (Figure 2).

## 2 | DIAGNOSIS

### 2.1 | Acute stroke secondary to essential thrombocythemia

Essential thrombocythemia (ET), also known as essential thrombocytosis, is a myeloproliferative neoplasm (MPN) characterized by extreme platelet overproduction.<sup>1</sup> Most common in middle-aged females, ET primarily stems from a genetic upregulation in the *Jak-Stat* pathway leading to excessive unilinear thrombocyte production.<sup>2-4</sup> Although up to half of patients with ET are asymptomatic, patients are at risk for both thrombosis and hemorrhage due to pathology in platelet quality and quantity.<sup>3</sup> Physical examination will often reveal splenomegaly.<sup>5</sup>

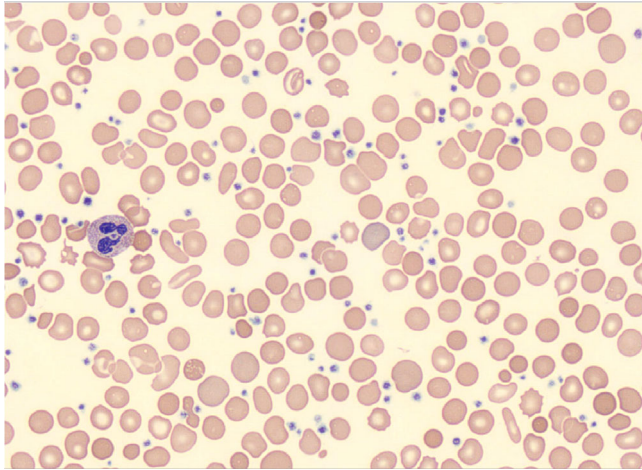


**FIGURE 1** Computed tomography angiography showed a large thrombus in the right internal carotid artery (white arrow)

Peripheral blood smear will show an increased quantity of platelets (thrombocytosis) and size variation (anisocytosis).<sup>1</sup>

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**FIGURE 2** Peripheral blood smear showed significant thrombocytosis with enlarged platelets

Although the majority of patients with ET can be managed in the outpatient setting, they are at increased risk of catastrophic hemorrhage and also prothrombotic sequelae including pulmonary embolism, cerebrovascular event, and myocardial infarction.<sup>5</sup> Early hematology consultation is essential, as plateletpheresis can serve as a temporizing measure until a myelosuppressive agent can be employed to normalize platelet levels.<sup>6</sup> Barring an emergent illness, the majority of patients with ET are expected to have minimal complications.<sup>7</sup> Those

with a history of thrombotic events should be considered high risk for subsequent life-threatening injury.<sup>7</sup>

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