Image Article
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Neuroimaging Findings of Polycythemia with Secondary Acute Ischemia

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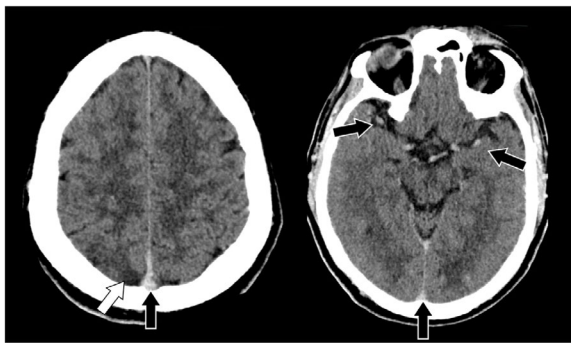

Figure 1. Computed Tomography (CT) at initial presentation.

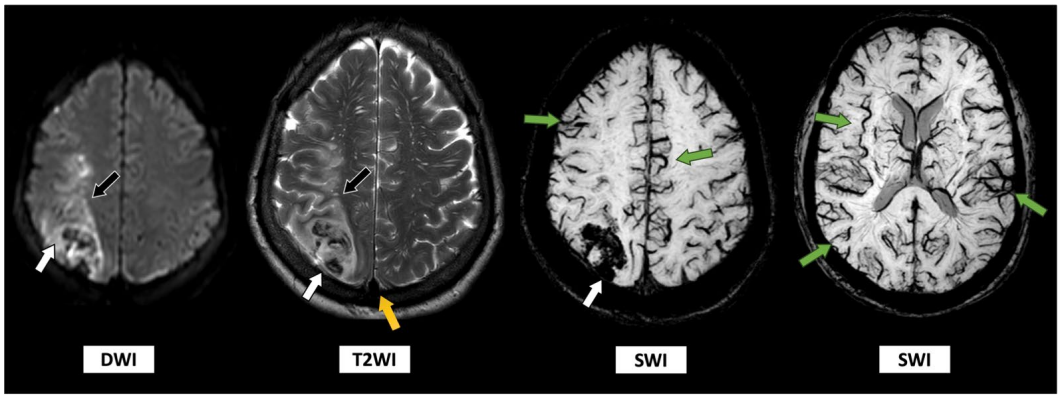

Figure 2. Magnetic Resonance Imaging (MRI) after worsening of the clinical findings.

Clinical-Medical Image

A 49-year-old male presented with left upper limb and facial weakness for 3 hours. Laboratory investigations showed high hematocrit (71%), high hemoglobin count (23 g/dL) and high RBC count (9 × 10^6/uL). CT (Figure 1) showed focal right parietal cortical-subcortical hypodensity (white arrow) and diffuse hyper attenuation of intracranial arteries and dural venous sinuses (black arrows) without thrombosis on CT angiogram (not shown).

Five days later, he developed slurred speech, and his left upper limb weakness has progressed. MRI (Figure 2) demonstrated right front parietal cortical-subcortical diffusion restriction and T2-hyperintensity (black arrows) representing acute ischemia. Focal areas of T2-signal drop and blooming artifact without significant mass effect in keeping with petechial hemorrhagic transformation (white arrows). T2-signal void of superior sagittal sinus is maintained (yellow arrow). Diffusely exaggerated hypo intense signal of intracranial vasculature was identified on Susceptibility Weighted Imaging (SWI) secondary to increased RBCs count (green arrows).

Diagnosis of polycythemia is usually made through laboratory findings of high hematocrit and hemoglobin levels, which can be primary due to bone marrow overproduction or secondary to underlying condition. On imaging, it is depicted as diffuse hyper attenuation of intracranial vessels on CT and diffusely prominent hypo intense signal of intracranial vasculature on SWI with maintained vascular flow void [1].

Keyword: Polycythemia acute ischemia

References

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