

PAID syndrome

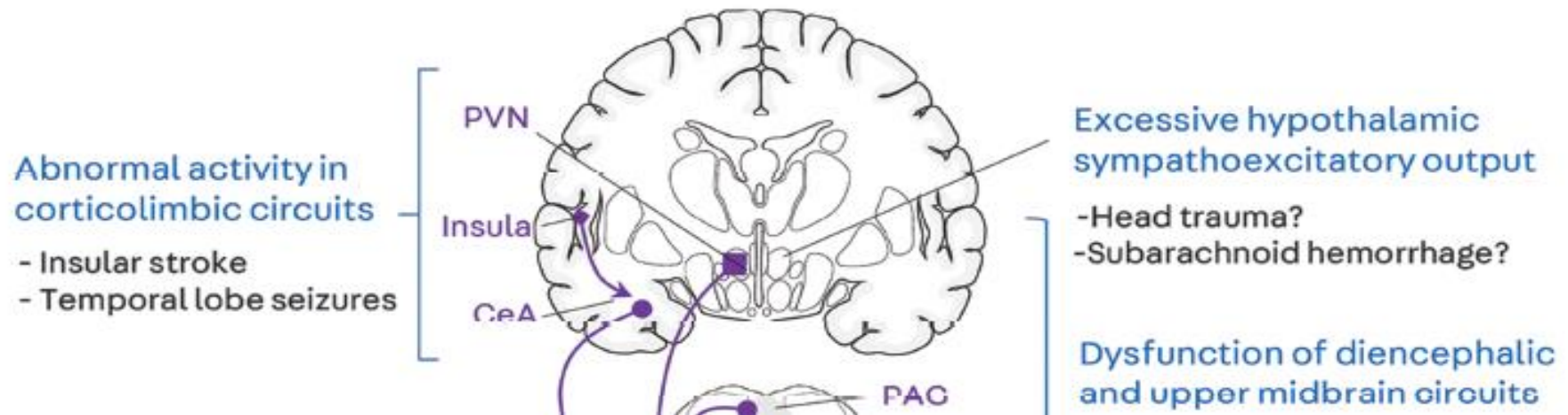
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Definition:

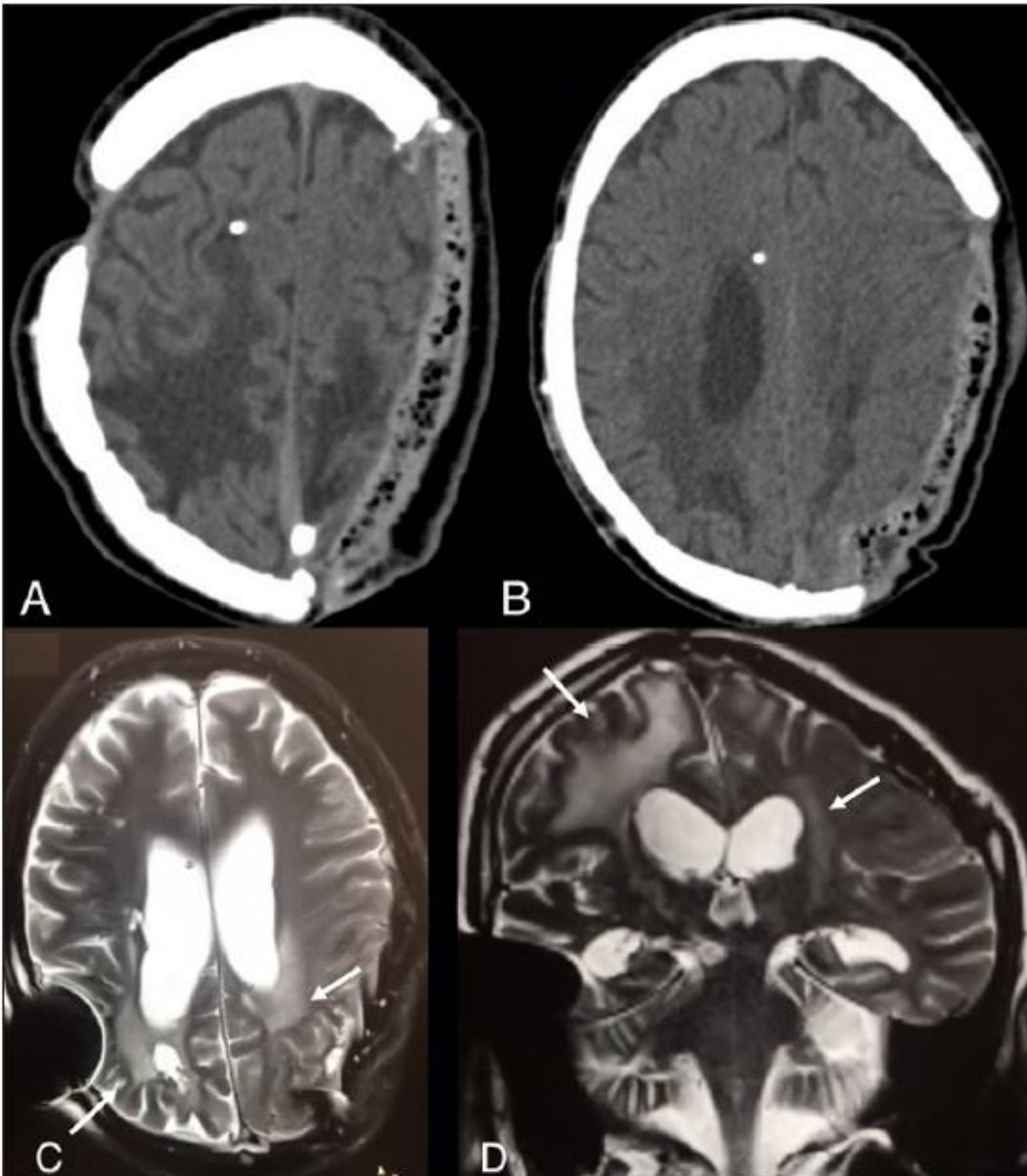
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- PAID (paroxysmal autonomic instability with dystonia) syndrome is defined as non-stimulated episodes of tachypnea, hypertension, tachycardia, hyperthermia, extensor posturing and diaphoresis.
 - Terminologies used to describe PAID in literature are diencephalic seizure and paroxysmal sympathetic storming.
 - PAID is a life threatening condition and can mimic other pathologies, hence a comprehensive understanding of this entity is necessary.

Pathophysiology:

- Diencephalic derivatives which includes hypothalamus and rostral ventrolateral medulla are the primary structures involved in the pathogenesis.
- Paraventricular nucleus of the hypothalamus is responsible of acute stress response.
- Rostral ventrolateral medulla maintains blood pressure modulated by the baroreceptor reflex.



- Any injury involving the forementioned structures can lead to excessive sympathetic surge.
- An excessive increase in catecholamines circulating in the body has been reported during the episode of PAID



A type of traumatic brain injury which lead to compression of the subcortical structures leading to the symptoms of PAID

Ref:Cardoso Vale T, Echenique L, Barsottini OGP, Pedroso JL. Paroxysmal Autonomic Instability with Dystonia after Severe Traumatic Brain Injury. Tremor Other Hyperkinet Mov (N Y). 2020 Jun 29; 10:12.

Symptoms:

Hyperactivity of sympathetic system due to increase levels of epinephrine and norepinephrine causes the following symptoms

- Tachycardia
- Hypertension
- Muscle rigidity
- Mydriasis
- Hyperhidrosis
- Hyperthermia
- Tremors

Etiologies:

- Traumatic brain injuries(80%)
- Aneurysmal subarachnoid hemorrhage
- Diencephalic or suprasellar tumors
- Hypoxic ischemic encephalopathy

Less common causes include

- Viral meningitis
- Cerebral malaria
- Fat emboli syndrome

Differential:

- PAID can mimic common pathologies but prompt diagnosis is necessary. Conditions that can imitate PAID include

➤ Neuroleptic malignant syndrome	➤ Malignant hyperthermia
➤ Thyroid storm	➤ Sepsis
➤ Pheochromocytoma	➤ Impending cerebral herniation

Treatment:

MORPHINE SULPHATE	Opioid derivative which aborts 90% of the symptoms
PROPOFOL	Can be used as abortive, but not as effective as morphine
BENZODIAZAPINE	Diazepam is mostly used for the hypertonicity
Clonidine	Abortive and preventive both
Propranolol	Can improve cardiac symptoms
Dantrolene	For hypertonicity and dystonia

Thank you