

Acute loss of consciousness

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Urgence

You get a call for ICU adm

- 52 y, Male, team leader of a mining company
- No previous medical history
- Non-smoker, 1 beer/day, no illicit drug
- No medication

Timing may be important

- Left the mine in a van at 3:00 pm
- Pt was the one driving. Had to stop the car because he was unable to drive
- Acute loss of consciousness at 3:30 pm
- Brought to ER by co-workers at 4:00 pm
- Co-workers left the ER at 5:00 pm
- You see the patient at 6:00 pm

- ER note : GCS 3/15 upon arrival, no eye mvt, no arms and legs mvt = ET tube
- Vitals stable – no medication given

Physical examination

- ABC : Ventilated – Vitals normal – no arrhythmia
- Pupils 1 mm non-reactive
- No eye mvt, doll's eye abnormal , Corneal +, Gag +
- Reflexes 2/4 symmetrical. Plantar reflex normal
- Starts moving hands and legs. Localizing pain.

- No nuchal rigidity; no clear signs of intoxication
- No sign of head trauma

- Capillary blood glucose N
- No response to Naloxone IV, Vit B1 500 mg IV given

Differential diagnosis at 6:15

- Coma
 - Trauma
 - Acute stroke
 - Intox
 - Metabolic
 - Hypoglycemia
 - Severe acidosis (DKA)
 - Na
 - Ca
 - TSH
 - Uremia
 - Hyper CO₂
 - Hepatic encephalopathy
 - Wernicke
 - PRES
 - Epileptic
 - M-encephalitis
 - Simulation

Choose your chapter



**Acute
neurological
syndrome**



**Acute loss
consciousness
with focal BS
deficits**



**Non-focal
COMA with
recuperation**



**Cadiac event
Recuperation
from anoxia**

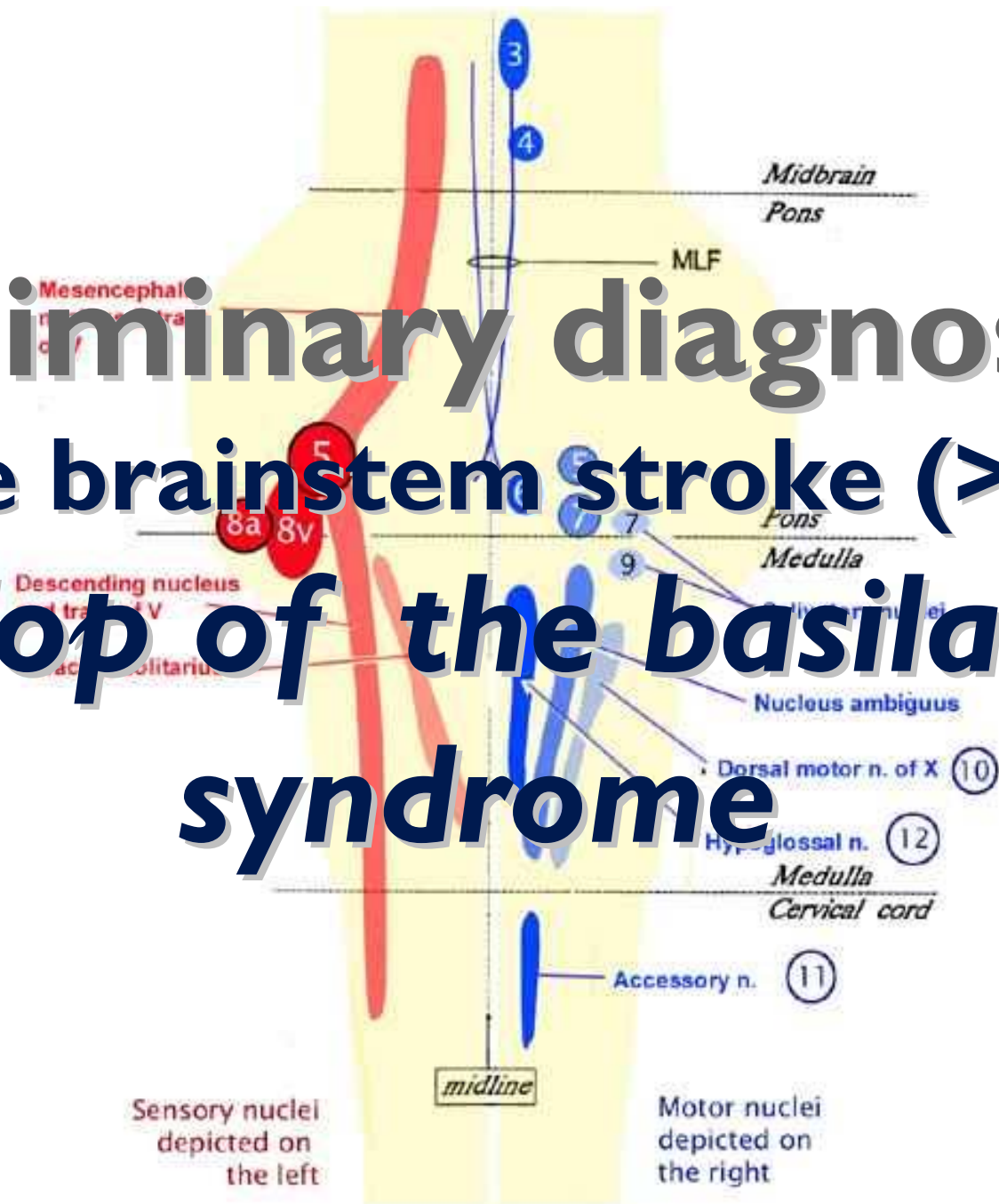
Investigation 6:45

- Metabolic work up Normal
- Arterial gas : no carboxyhaemoglobin
- Toxicologic screening negative
- EKG / chest XR Normal
- 10 min EEG Normal (awake ?)
- Non-contrast head CT scan Normal

You get more info

- 3:20 pm : Bilateral visual symptoms, right ptosis
- Vestibulo-ocular cold water reflex Abnormal

Preliminary diagnosis :
Acute brainstem stroke (> 3 h)
Top of the basilar
syndrome

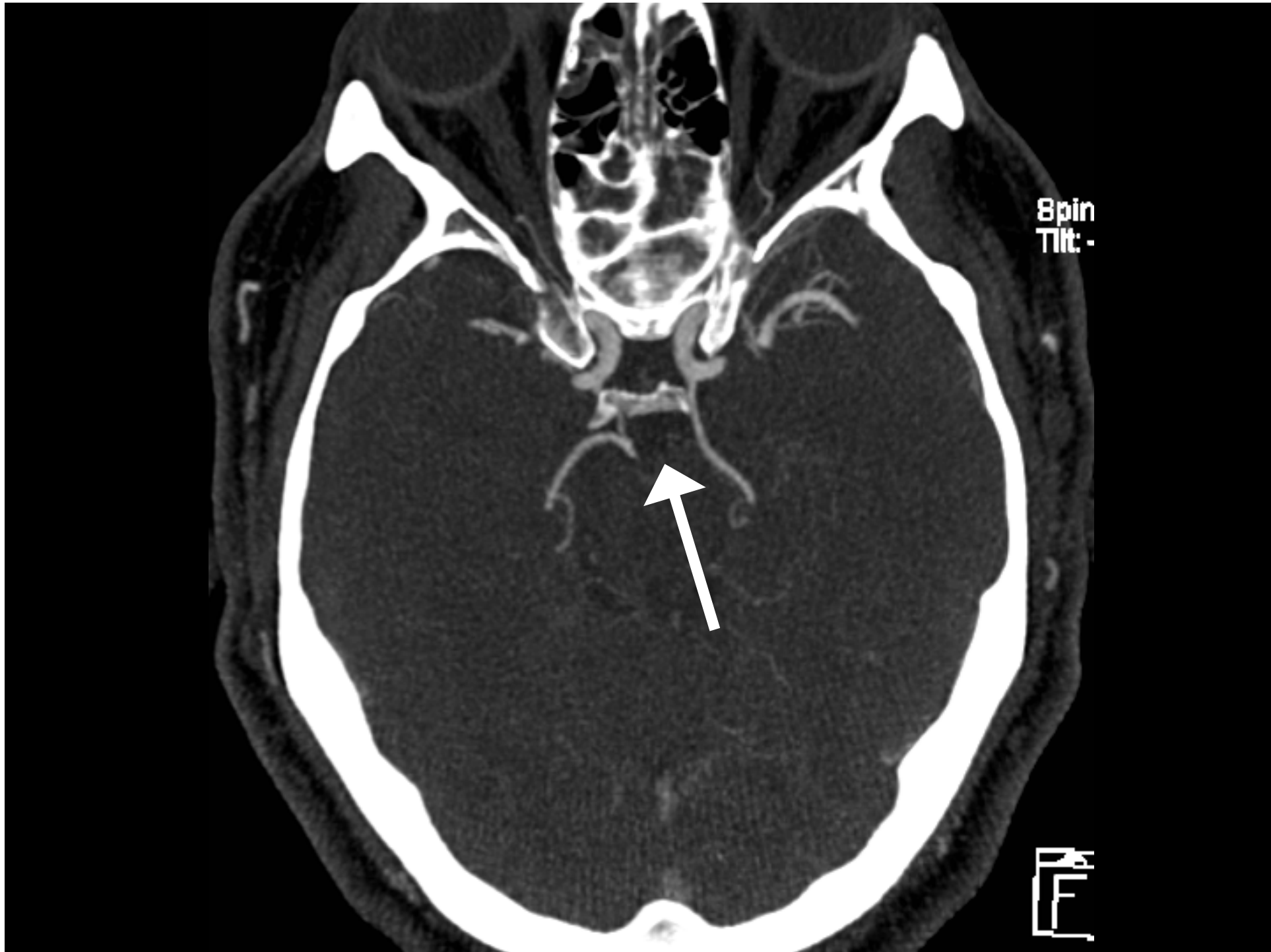


Brainstem Cranial Nerve Nuclei





IAR



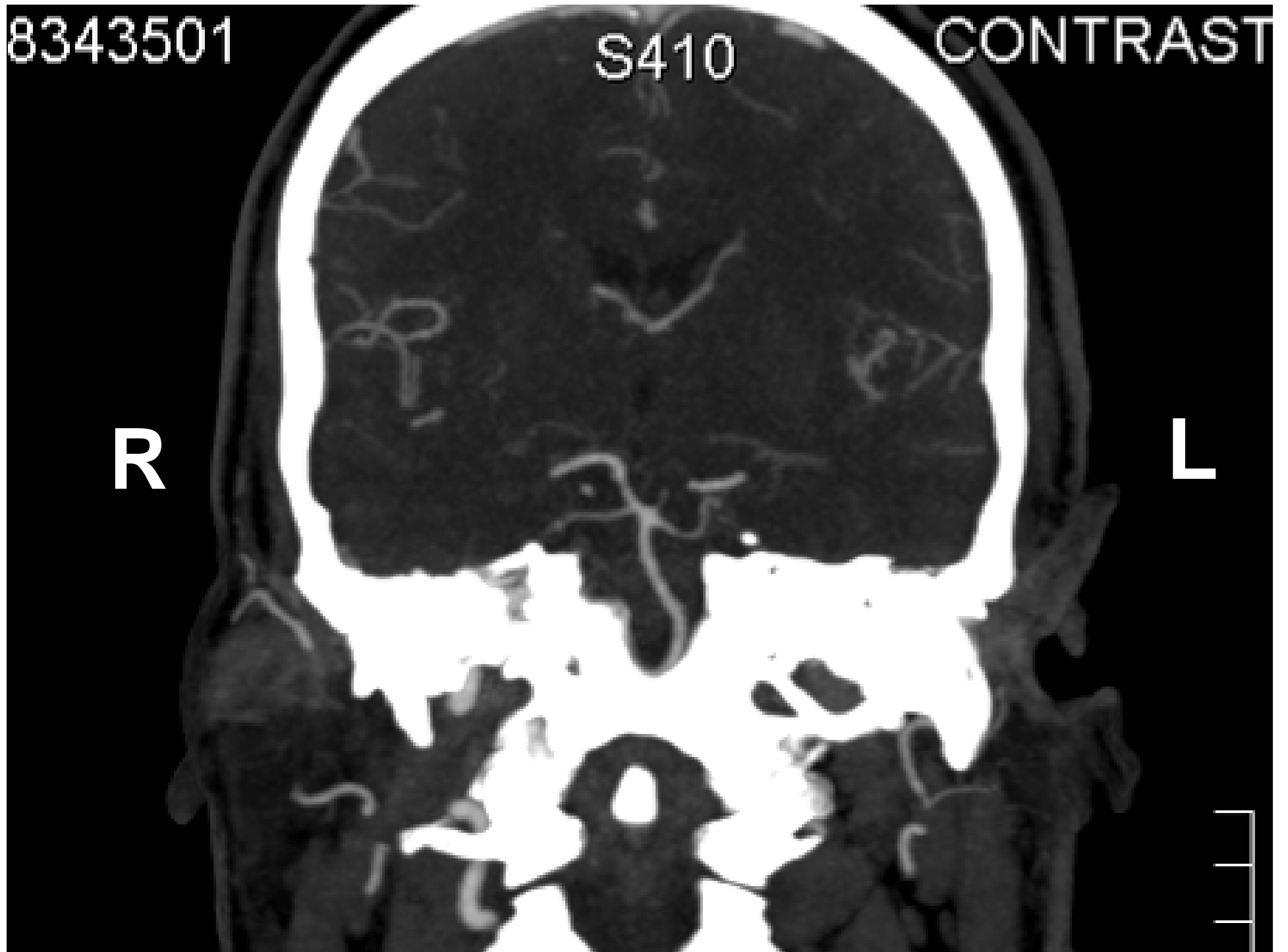
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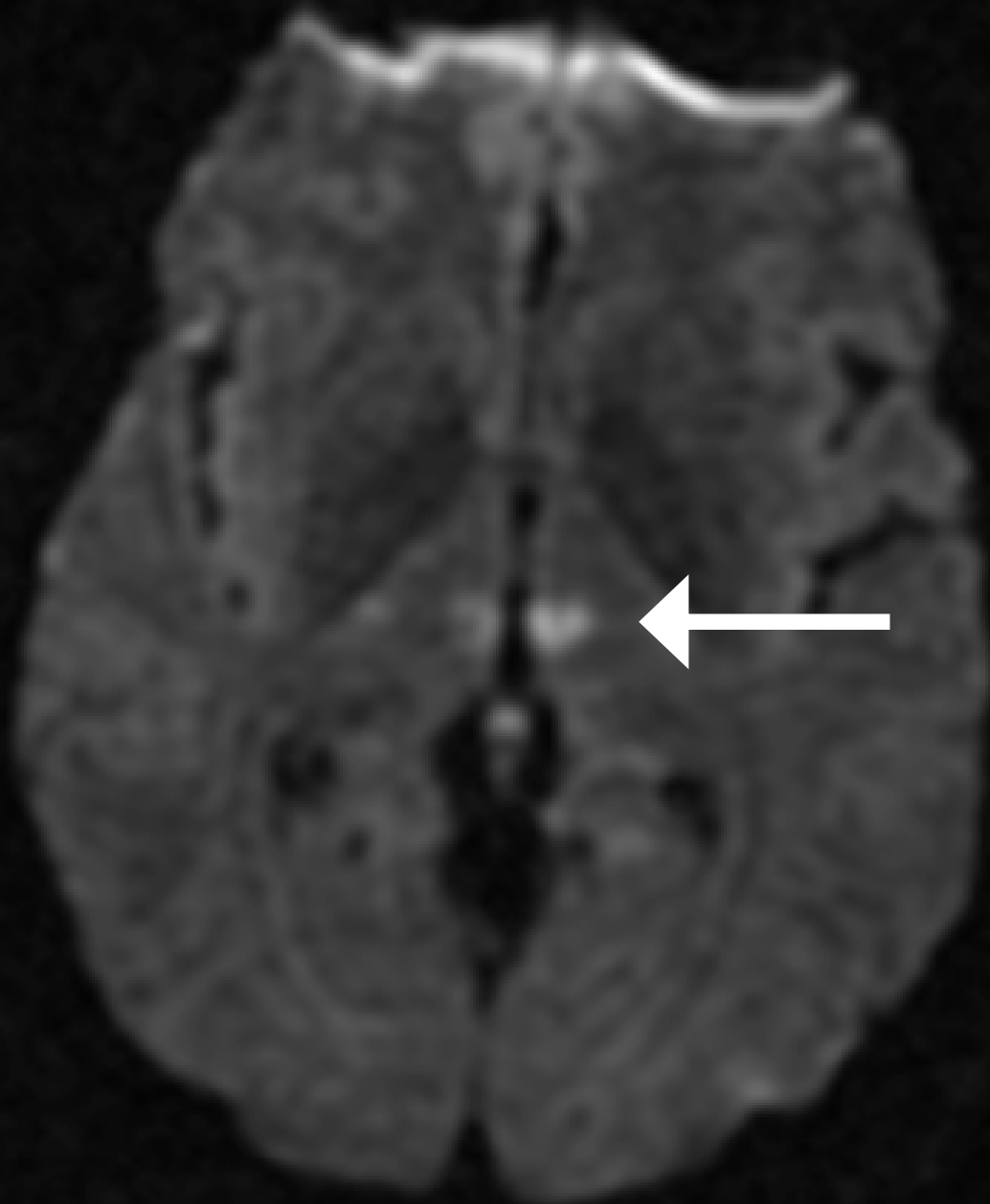
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CONTRAST

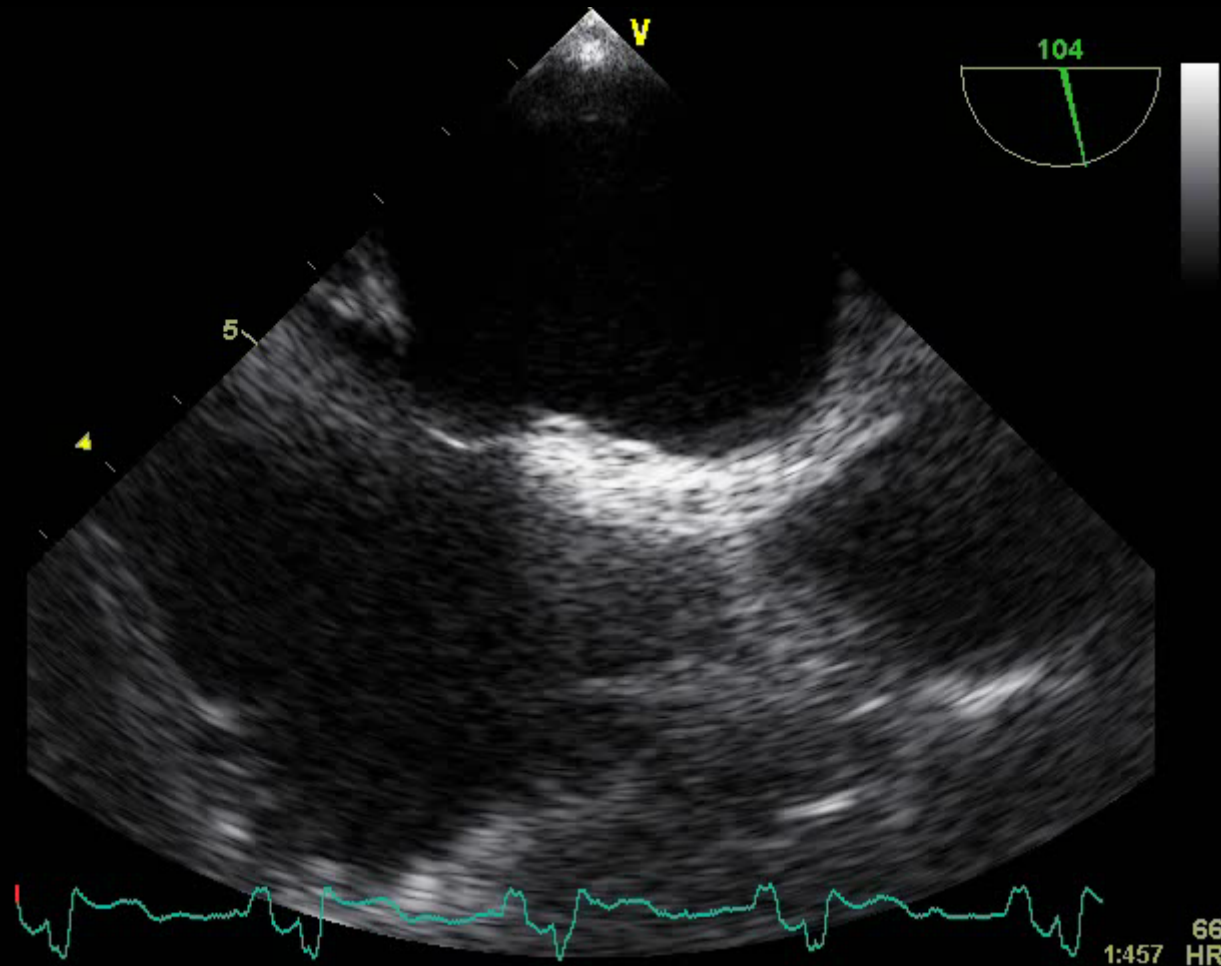
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Patent foramen ovale and aneurysm



Final diagnosis :

Acute embolic stroke

- ***Top of the basilar syndrome***
- ***Occipital TIA, thalamic stroke***
- ***PFO and aneurysm***

Treatment

- No IA thrombolysis because of clot migration
- Aspirin + IV heparin
- PFO closure, 3 months A/c followed by aspirin only.

Learning points

- An acute neurologic event is acute stroke until proven otherwise.
- Top of the basilar syndrome may display isolated brainstem deficits and should be directed for urgent IA thrombolysis even after the 3-6 hours window.
- 80 % mortality if left untreated
- Beware TIA in the V-B territory (50 %)
- GIM specialists play a key role in the managing of complex emergency situations.



Vertebrobasilar arterial disease accounts for 5%–10% of all strokes.

The majority of brain stem infarcts are caused by BAO. Most are due to atherosclerosis.

headache, dizziness, confusion, or coma.

dysarthria and unilateral paresthesias. Frequent findings in these cases were pupillary abnormalities, abnormal ocular movements, facial palsy, hemiplegia/quadruplegia, and bilateral extensor plantar responses. Uson-Martin and

Gracia-Naya¹⁹ observed the most common clinical manifestation of BAO to be motor deficit (68%). Added manifestations included abnormal eye movements (48%), cerebellar dysfunction (40%), altered level of consciousness (32%), visual field defect (20%), and pupil anomalies (16%). Occasionally, the heralding symptoms of BAO may be pseudoconvulsion or spontaneous laughing and crying spells.¹⁰

- TIA preceding a stroke occurs in approximately 50% cases.
- 37% of the patients with clinical evidence for brainstem ischemia progressed to coma or death in 0–6 hours,
- Untreated, BAO has a mortality rate of 80%–90%. Two critical factors affecting prognosis are length of clot and amount of collateral supply
- IV heparin therapy is also occasionally used for acute deterioration in patients with BAO. No studies have proven any significant benefit with heparin therapy
- Two different studies
- show poor prognoses in patients presenting with the following
- 4 findings^{22,41}:
 - 1. Dysarthria
 - 2. Lower cranial nerve involvement
 - 3. Pupillary disorder
 - 4. Consciousness disorder