

### Background

#### Cryptogenic Stroke

- No consistent definition.
- Accounts for 30-40% of ischemic stroke, where current knowledge, protocols and technology fail to determine the underlying cause.
- Occult paroxysmal atrial fibrillation, patent foramen ovale, aortic arch atherosclerosis, atrial cardiopathy, and sub-stenotic atherosclerosis have been implicated.
- Etiology may still not be clear after brain and noninvasive vascular imaging, 12-lead ECG, and routine blood tests/laboratory work-up.
- If embolic stroke is suspected, can add ECG monitoring (>24 hours) and ECHO.

### Case (continued)

- Started on DAPT for 21 days and statins therapy.
- Rehab stay: patient was highly motivated on admission.
- Good gain in ambulation and strength.
- Mild improvement in ADLs.
- Very frustrated with limited improvement in dominant-hand function and speech.
- Discharged home with home therapy and good transition to outpatient therapy after a month.
- Patient had worsening mood and anxiety throughout rehabilitation process.
- Concern of a psychosomatic disorder affecting functional capability.
- Neuropsychology referral 6 months post- stroke.

### Discussion

- Prognosis of cryptogenic stroke varies.
- Recurrence rates are comparable to other strokes.
- Secondary stroke prevention addresses the most probable cause.
- Rehab programs do not distinguish this stroke population.
- In our patient’s rehabilitation, we focused on typical goals following stroke:
- Education about general wellbeing and general secondary stroke prevention.
- The uncertainties related to cryptogenic stroke did not allow us to address specific questions regarding prognosis and prevention, exacerbating her emotional distress.

### Discussion (continued)

- Neuropsychology support should have been considered earlier.
- It is unclear if our patient’s outcome would have improved with a known etiology, clearer prognosis, and earlier psychological support.

### Conclusion

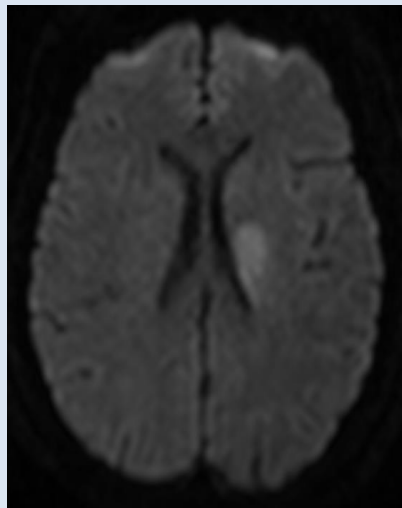
- There is no systematic review addressing the acute and long term rehabilitation process, prognosis, and disposition of patients following a cryptogenic stroke.
- Cryptogenic stroke remains largely unexamined in the rehabilitation literature.

### Case Description

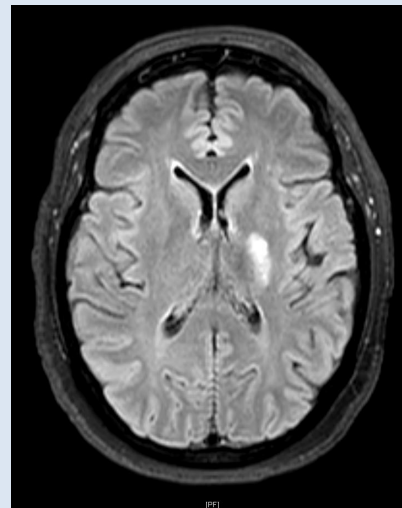
#### 55 years-old right-handed woman

- No known past medical history.
- Jogs 5 miles 3 times a week.
- Works as a housemaid.
- Presentation: right-hemiparesis and dysarthric speech.
- No difficulty swallowing, vertigo or blurry/double vision.
- CT Head: negative for acute injury.
- MRI Brain: Left Corona Radiata/Internal Capsule and subacute Right temporoparietal infarcts.
- MRA Brain: mild focal stenosis in M2 of Left MCA, poor flow in distal PCA compared to right.
- Work-up: TTE and TEE, Holter monitor and ILR, angiogram, vasculitis and inflammatory disease labs (antiphospholipid, ACE, ANA, ANCA, ESR/CRP, JAK2, CSF cell count, HSV and VZV): Negative.
- Thought to be cardioembolic in nature due to distribution.
- No t-PA or thrombectomy.

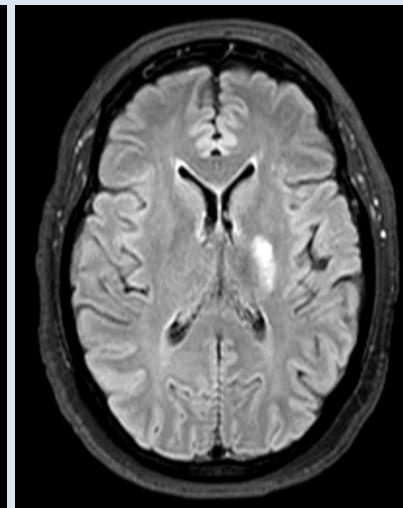
### Images



(a)



(b)



(c)

**MRI Brain Imaging:** (a) On admission -sb100 mode for acute ischemic changes-, (b) At 3 months after stroke, and (c) At 6 months after stroke -both T2W-FLAIR mode for inflammation-.

### References

- **McMahon NE, Bangee M, Benedetto V, et al. Etiologic Workup in Cases of Cryptogenic Stroke: A Systematic Review of International Clinical Practice Guidelines.** Stroke. 2020 May;51(5):1419-1427. doi: 10.1161/STROKEAHA.119.027123. Epub 2020 Apr 13. PMID: 32279620; PMCID: PMC7185056.
- **Yaghi S, Bernstein RA, Passman R, et al. Cryptogenic Stroke: Research and Practice.** Circ Res. 2017 Feb 3;120(3):527-540. doi: 10.1161/CIRCRESAHA.116.308447. PMID: 28154102.
- **Li L, Yiin GS, Geraghty OC, et al. Incidence, outcome, risk factors, and long-term prognosis of cryptogenic transient ischaemic attack and ischaemic stroke: a population-based study.** Lancet Neurol. 2015;14(9):903-913. doi:10.1016/S1474-4422(15)00132-5
- **Schulz UG. Cryptogenic stroke - How to make sense of a non-diagnostic entity.** Maturitas. 2019 Apr;122:44-50. doi: 10.1016/j.maturitas.2019.01.004. Epub 2019 Jan 11. PMID: 30797529.

