

Stanford Type A Aortic Dissection Presenting as Coma: a Case Report

BACKGROUND

Acute Stanford type A aortic dissection (ATAAD) is a highly lethal aortic disease when an intimal tear in the ascending aorta creates a false lumen. Immediate diagnosis and surgical repair are imperative to optimize outcomes. Coma as a rare presentation of ATAAD makes early diagnosis very challenging.

- About 6% -11.6% of patients diagnosed with ATAAD present as stroke [1,2].
- Neurological symptoms include sensorimotor deficit, aphasia, vision impairment, syncope, seizure and coma.
- Absence of widened mediastinum in 37.4% and normal ECG in 30.8% of ATAAD patients [4].
- Only 1.6% present as coma [3].
- Coma alone is not predictive of poor clinical outcome or in-hospital death [3].

Therefore, early diagnosis of ATAAD presenting as coma are imperative to clinical outcome.

PATIENT INFORMATION

49 year old female no significant PMH was found down with unresponsiveness and agonal breathing in a bathroom after a pilates class. She was intubated on the scene and brought to the ED by EMS.

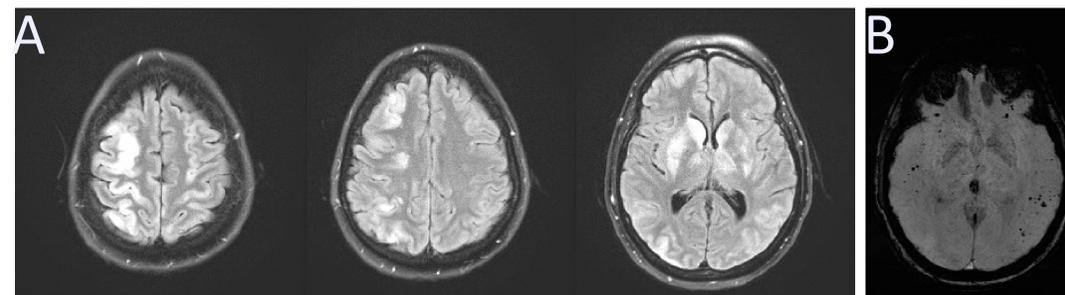
CASE PRESENTATION

I. Diagnosis of ATAAD

Time	Event
11:26	Arrival in the ED
11:36	Blood glucose within normal range
11:37	Chest x-ray: Mediastinal and cardiac contours are unremarkable.
11:50	Cranial CT w/o contrast: No acute intracranial hemorrhage or large territorial infarct
12:35	Urine toxicity unremarkable
12:54	Troponin I of 0.089
13:14	ECG: normal sinus rhythm
13:44	Admit to ICU
14:32	ABG unremarkable
17:05	Brain MRI without contrast: Innumerable diffuse bilateral artifacts suspicious for amyloid angiopathy or hypertensive sequela
17:43	Troponin I of 0.145
	Call family: significant family history of aortic dissection and aneurysm
19:59	CTA chest: extensive aortic dissection involving the aortic root
21:48	OR with CT surgery: Ascending aorta and hemiarch repair

II. Anoxic brain injury

Patient remained in a coma status for a prolonged time postoperatively. Surprisingly, 10 day post ATAAD, she was able to follow commands and was then extubated.

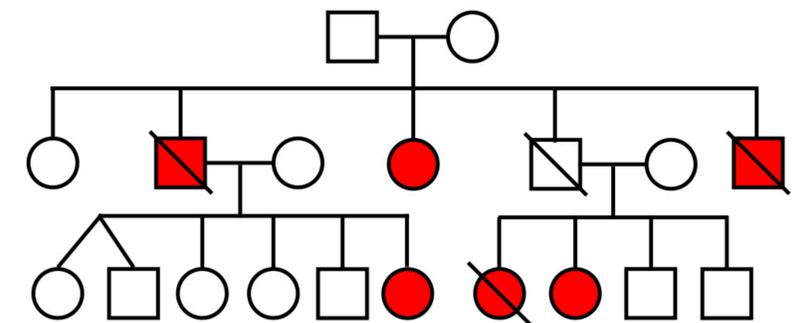


MRI obtained 4 days post ATAAD.

A) Diffusion-weighted imaging showed multifocal bilateral infarction. B) Maximum intensity projection showed innumerable foci of superficial cerebral lesion, highly suspicious for amyloid angiopathy.

III. Familial thoracic aortic aneurysm and dissection (TAAD)

- Familial TAAD is inherited in an autosomal dominant pattern.
- The patient is the 6th person who was diagnosed with TAAD in her family.
- Mutations in this family are unclear.



CONCLUSIONS

- Increase suspicion of aortic dissection in patients presenting with altered mental status.
- Minimize sedation in patient with anoxic brain injury to facilitate neural checks and recovery.

REFERENCES

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4. Hagan PG, et al. (2000) The International Registry of Acute Aortic Dissection (IRAD): new insights into an old disease. *JAMA*, 283: 897-903.