



Mechanical Thrombectomy in a Suspected COVID Patient

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Clinical Image

A 75 year old patient was found on the floor with left sided weakness and left facial droop. The patient was brought to the Royal Stoke University Hospital with a suspected stroke 3 hours after symptom onset. The stroke team met the patient at the A&E department and immediate examination revealed a NIHSS score of 8. Patient also had a mild fever and a new onset cough. Patient had a past medical history of hypertension. A CT Head and a CT angiogram aortic arch to circle of Willis were performed as per the institutions protocol. A review of the lung apices on the CT angiogram showed a ground glass appearance and a CXR showed changes suspicious of COVID-19 (Figures 1-4).

Thrombectomy Setup

Sanjeev Nayak performed the case with:

- Penumbra 088 90 Neuron Max
- Medtronic React™ 71 Aspiration Catheter
- Medtronic Phenom™ 21
- Medtronic 4 mm × 20 mm Solitaire™ X revascularization device
- Full PPE (personal protective equipment) was used by operator and staff due to COVID-19 suspicion.
- Procedure performed under local anesthetic due to >25% risk of mortality with general

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Received Date: 01 Jul 2020

Accepted Date: 17 Jul 2020

Published Date: 24 Jul 2020

Citation:

Nayak S. Mechanical Thrombectomy in a Suspected COVID Patient. *Ann Clin Case Rep.* 2020; 5: 1866.

ISSN: 2474-1655

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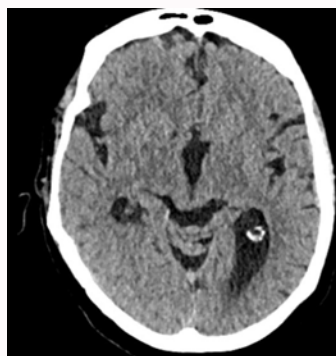


Figure 1: Plain CT Head: Did not show any areas of established ischemia.

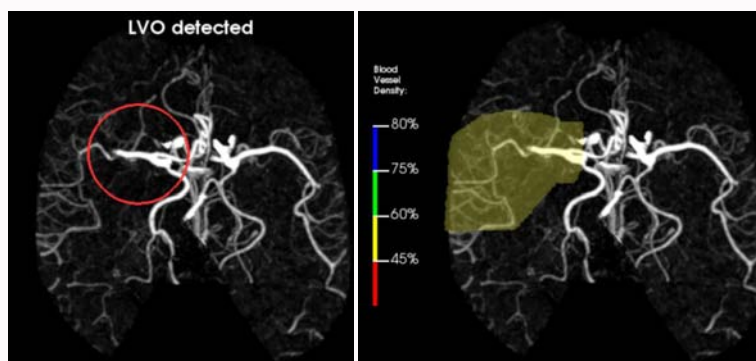


Figure 2: CT Angiogram: Showed a large vessel left M1/M2 occlusion.

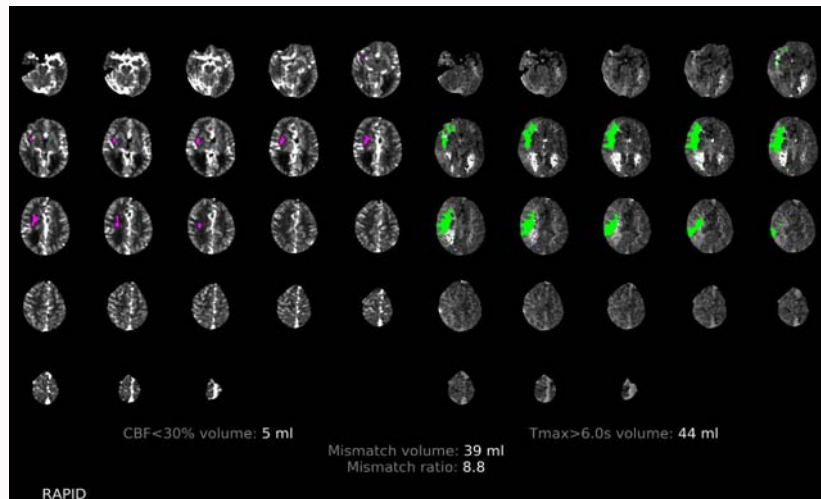


Figure 3: CT Perfusion: Showed a small core of 5 mls with a large penumbra of 44 mls and with a mismatch ratio of 8.8 suggesting a favourable indication towards mechanical clot removal.

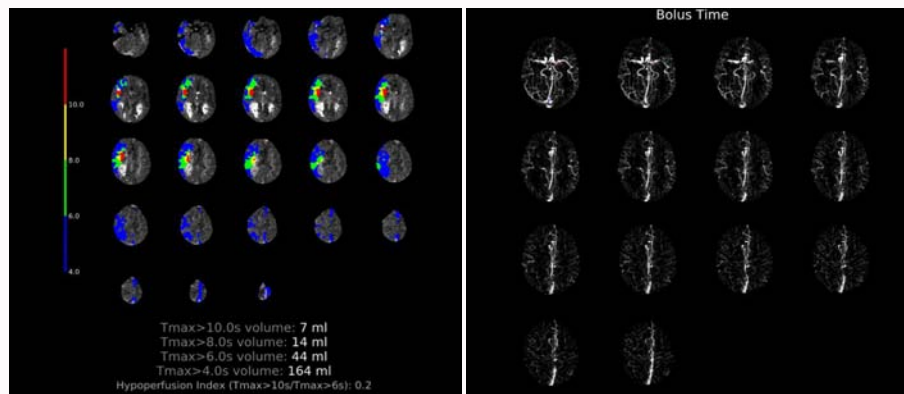


Figure 4: CT Perfusion also showed good collaterals as evidenced by a Hyperperfusion Index (HIR) of 0.2. Low HIR (< 0.5) indicates good collaterals = slow infarct core growth.

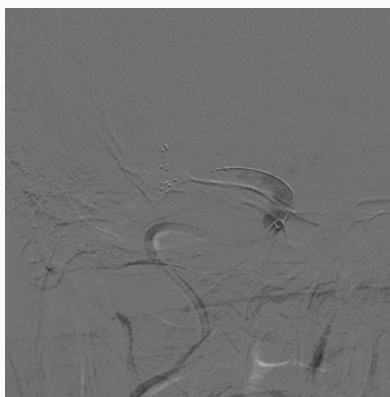


Figure 5: AP view of the right ICA injection in delayed phase.

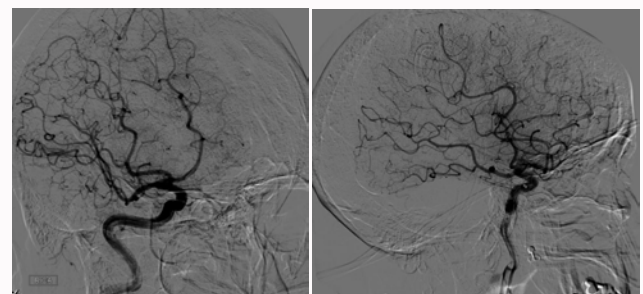


Figure 6: Post-procedure AP oblique and lateral view of the anterior circulation cerebral arteries: The MCA is revascularized with a single pass TICI 3.

anesthetic in patients with COVID-19.

- Deep cleaning of the angiographic suite was performed following the procedure.

Angiogram Images

AP view of the right ICA injection in delayed phase: The angiogram shows the React™-71 Aspiration catheter and Phenom™-21 with

initial release of the Solitaire™ X revascularization device within the right MCA M1/M2 occluded segment (Figure 5 and 6).

Patient Outcome

The patient experienced significant improvement and completely recovered from her neurological deficit within 24 hours. The patient NIHSS score reduced from 8 to 0. Patient was discharged from stroke unit in 2 days and commenced on Clopidogrel 75 mgs. Her chest symptoms included mild cough and there was no temperature at discharge. Further follow-up was planned in 4 to 6 weeks' time.