

INTRA-ARTERIAL MECHANICAL THROMBECTOMY (IAMT) FOR TREATMENT OF ISCHAEMIC STROKE

Overview

All cases are treated as suspected COVID.

Stroke thrombectomy is a TIME SENSITIVE EMERGENCY and is dealt with in a very different way to embolisations. The key to good neurological outcome is **minimising the delay from onset of symptoms to treatment.**

We are often asked to attend as back up in case they need a GA. This need might be decided upon once the procedure has commenced depending on patient compliance. **The patient is likely to be on the procedure table by the time we attend.**

Factors that are important for good neurological outcome in IAMT include:

- Possible avoidance of General Anaesthesia (pending further evidence)
- Time to treatment from onset of symptoms < 6hours
- Avoid Hypotension Systolic < 140 mmHg
- Avoid Hypertension Systolic >180mmHg
- Avoid Hyperglycaemia

Specific Considerations for providing Anaesthesia for IAMT

- Minimal time to assess patient
- Patient might have received thrombolysis
- Invasive monitoring not possible
- High Risk Group (mortality >20%)

As a guide to help decide on the best way to proceed the following can be considered:

- Awake cooperative patient → Proceed under local / Conscious Sedation
- Uncooperative / Restless patient → GA
- Pre Intervention Aspiration → GA
- Airway Obstruction → GA
- Decreased Level of Consciousness → GA
- Uncooperative & "Unfit for GA" → Consider Sedation / Alternative management

Airway management:

"Time is brain". Consider SAD if appropriate (please note that proseals are kept in radiology DAT).

If intubation (+/- RSI) is required and the patient is on the X-Ray table, consider it a potentially difficult intubation. Videolaryngoscope and Ambu-scope should be readily available.

Monitoring – All patients undergoing IAMT must have as a minimum the following monitoring irrespective of sedation or anaesthetic technique used.

- ECG
- Pulse oximetry
- Non-Invasive Blood Pressure – recordings minimum every 5 minutes
- Continuous Capnography
- Arterial Access
 - i. This should only be considered in exceptional circumstances.
 - ii. The patient may have received intravenous thrombolysis which would make these procedures difficult. Inserting these lines may cause an unacceptable delay to proceeding with IAMT with possible worsening neurological outcome.
 - iii. It might be possible to monitor blood pressure through the side arm of the femoral sheath.

Particular issues during COVID pandemic:

- Only the minimum number of full PPE donned staff can stay in the intervention room. The area outside the window is considered clean.
- The anaesthetic team (doctor and ODP) remains in intervention area throughout
- One clean runner (anaesthetist or ODP) is needed.
- Lead radioprotective aprons must be worn under PPE.

Step by Step guide

1. Go to theatres and collect equipment as described in checklist 1
2. Once in radiology the ODP puts on lead gown, dons with full PPE and goes into procedure room to check the machine. Then they stay in procedure room until the anaesthetic team is no longer required.
3. Ensure that the patient's vital signs are monitored by the radiology/stroke team until GA is induced, as the anaesthetic team needs to prepare lots of kit very quickly.
4. The most experienced anaesthetist puts lead gown, surgical gown and gloves on. Respirator, hat and visor only if there is need to enter the procedure room.
5. Team in the clean room ensure that all kit and drugs required are available as per checklist 2
6. Please ensure that radiology have provided 2 radioprotective screens for anaesthetic team (one will stay at the head end, one by the feet).
7. Depending on airway management:
 - a. Remove SAD in radiology if patient spontaneously ventilating. Stay donned and take patient to recovery. Bring lead coat back to radiology after doffing.
 - b. If the patient is intubated, take to theatre to extubate as per COVID embolisation guideline.

Joanna Fox and CDN,
23rd April 2020.

CHECKLIST 1: STAFF AND KIT TO BRING FROM MAIN THEATRES

- 3 People minimum:
 - 1 ODP
 - 1 experienced anaesthetist
 - 3rd clean person (ideally ODP, otherwise anaesthetist familiar with radiology area)
- MERIT Trolley #3 (without Plan A bag): to remain in clean area until needed.
- CMAC plus blade: to remain in clean area until needed.

CHECKLIST 2: IN RADIOLOGY

Part A: People preparation

- ODP: don lead plus full PPE. Check anaesthetic machine. Remain until end of case.
- Patient discussion with stroke team: reflux, starvation, weight, comorbidities, allergies.
- Decide ETT versus SAD
- Anaesthetist: don lead gown/surgical gown/gloves. Don mask/hat/visor if GA requested.

Part B: Kit preparation

To take into procedure room (if GA needed)

Airway

- 'Airway Trolley': use small silver trolley found in radiology
- 1 tray with plan A: Facemask, 2 x filter, 1 x angle piece, 3 x guedel, Igel of appropriate size or ETT.



Drugs

- 1 tray with induction drugs and emergency drugs

Other

- Ask for 2 radioprotective screens in procedure room (one for ODP at head end and one for anaesthetist).
- Anaesthetic chart and pen
- Small white board and pen to communicate with clean area, sound is not clear when wearing PPE. There is also a radio.



To remain outside procedure room (in clean area)

- 1 x blue tray of emergency drugs found in anaesthetic store cupboard
- Syringes, drawing up needles, saline
- MERIT Trolley, CMAC, consider ambu-scope.