ICCA STROKE

2019

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DISCLOSURE STATEMENT OF FINANCIAL INTEREST

Within the past 12 months, I have had a financial interest/arrangement or affiliation with the organization(s) listed below

AFFILIATION/FINANCIAL RELATIONSHIP	COMPANY
Grant/Research Support	Nil
Consulting Fees/Honoraria	Nil
Major Stock Shareholder/Equity	Nil
Royalty Income	Nil
Ownership/Founder	Nil
Intellectual Property Rights	Nil
Other Financial Benefit	

DISCLOSURE STATEMENT OF FINANCIAL INTEREST

I, Ian Ewart DO NOT have a financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.

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WIST

General Anaesthesia….when is it needed…..when not?

Dr Ian Ewart

M.B.,B.S. B.SC. F.R.C.A.
Consultant Vascular Anaesthetist and Intensivist.
Southend University Hospital NHS Foundation Trust.

So when is general anaesthesia required?

Absolute indications:

Basilar occlusion…..this group of patients are at very high risk of rapidly decreasing GCS,and will at some stage require intubation and ventilation.

All other cases with GCS <7 or otherwise unable to protect own airway.

Patients too obtunded or agitated to enable safe imaging and procedure

So when is general anaesthesia required?

- Relative indications:

- During the initial stages of a thrombectomy service,it may be easier for the operator to work under more controlled conditions,and general anaesthesia may provide this(less movement etc)

- Operator and/or unit preference

What do we mean by anaesthesia?

- General anaesthesia.

- Seen by many as the last resort,although recent studies such as ANSTROKE and SIESTA would refute this,and our own data would support those findings also.
- May contribute to overall delays but close integration of stroke/radiology/anaesthetic teams can mitigate this.
- Significant risks in terms of BP/ETCO2 management requiring presence of experienced anaesthetic staff.

For general anaesthesia……

- Benefits:
- Airway safety and control of ETCO2
- Adequate oxygenation
- Ability to manage a rapidly changing situation and control agitation and movement.
- Blood pressure control…..but also risks of hypotension and CO2 management if not optimally managed.

Against general anaesthesia.....

- Possibility of delays(although our own evidence would refute this)
- Need for close monitoring of ETCO2 and blood pressure to ensure that neither exceed close limits.
- Association of GA with poor outcome in a number of (older) trials,but :

- 3.Variations in technique,e.g.management of hypotension.
- 4.Those patients with poor outcomes also tended to be the most obtunded at presentation.

ANSTROKE

The ANSTROKE (Sedation Versus General Anesthesia for Endovascular Therapy in Acute Stroke—Impact
on Neurological Outcome) trial has completed and was looking specifically at AIS patients randomised between GA and sedation only.

90 patients analysed (15% conversion to GA from CS)

GA was induced by propofol and remifentanil, maintained with sevoflurane and remifentanil, and aiming for normoventilation. CS was performed by remifentanil infusion.

No differences demonstrated between the GA and CS groups in mRS at 3mths
No difference in NIHSS,infarction volume or recanalisation.

Stroke:2017 Jun;48(6):1601-1607. doi: 10.1161/STROKEAHA.117.016554.

SIESTA.

Effect of Conscious Sedation vs General Anesthesia on Early Neurological Improvement Among Patients With Ischemic Stroke Undergoing Endovascular Thrombectomy: A Randomized Clinical Trial.

Objective:
To assess whether conscious sedation is superior to general anesthesia for early neurological improvement among patients receiving stroke thrombectomy.

Intervention:
Patients were randomly assigned to an intubated general anesthesia group (n = 73) or a nonintubated conscious sedation group (n = 77) during stroke thrombectomy.

Results:
Among 150 patients (60 women [40%]; mean age, 71.5 years; median NIHSS score, 17), primary outcome was NOT significantly different between the general anesthesia group and the sedation group.

Conclusions and Relevance:

Among patients with acute ischemic stroke in the anterior circulation undergoing thrombectomy, conscious sedation vs general anaesthesia did NOT result in greater improvement in neurological status at 24 hours.

(CS with remifentanil and GA using propofol and remifentanil for induction and with sevoflurane and remifentanil maintenance)

Int J Stroke. 2015 Aug;10(6):969-78. doi: 10.1111/ijs.12488. Epub 2015 Apr 12.

GOLIATH.

Objective To examine the effect of type of anesthesia during EVT on infarct growth and clinical outcome.

128 patients included in the trial, 65 were randomized to GA, and 63 to CS.

For patients who underwent thrombectomy for acute ischemic stroke caused by large vessel occlusions in the anterior circulation, GA did not result in worse tissue or clinical outcomes compared with CS.

JAMA Neurol. 2018;75(4):470-477. doi:10.1001/jamaneurol.2017.4474

So…..when is anaesthesia needed and when not …..

- The conclusions of most of the current trials are that the simpler the approach to anaesthesia,the better,and to reserve GA for those patients requiring airway protection +/- circulatory support.

- This is a very sensible and pragmatic approach to what can be a rapidly changing situation.
- General anaesthesia is more complex than LA or CS but has specific advantages in certain situations.

Upcoming factors…..

- Protocolised general anaesthesia (standardised techniques and drugs).

- Strict control of systolic BP (140-180mmHg)
- (Esp important where autoregulation is disrupted)

- Control of ETCO2 (>5-5.5kPa <7kPa)
- (Avoiding cerebral vasoconstriction or dilatation)

- Intracranial SaO2….INVOS and similar.
- (Issues with imaging and probe placement in field of view)

- All aimed at preserving flow in the presence of diminished inflow and altered autoregulation.

Always remember…….Time is brain.

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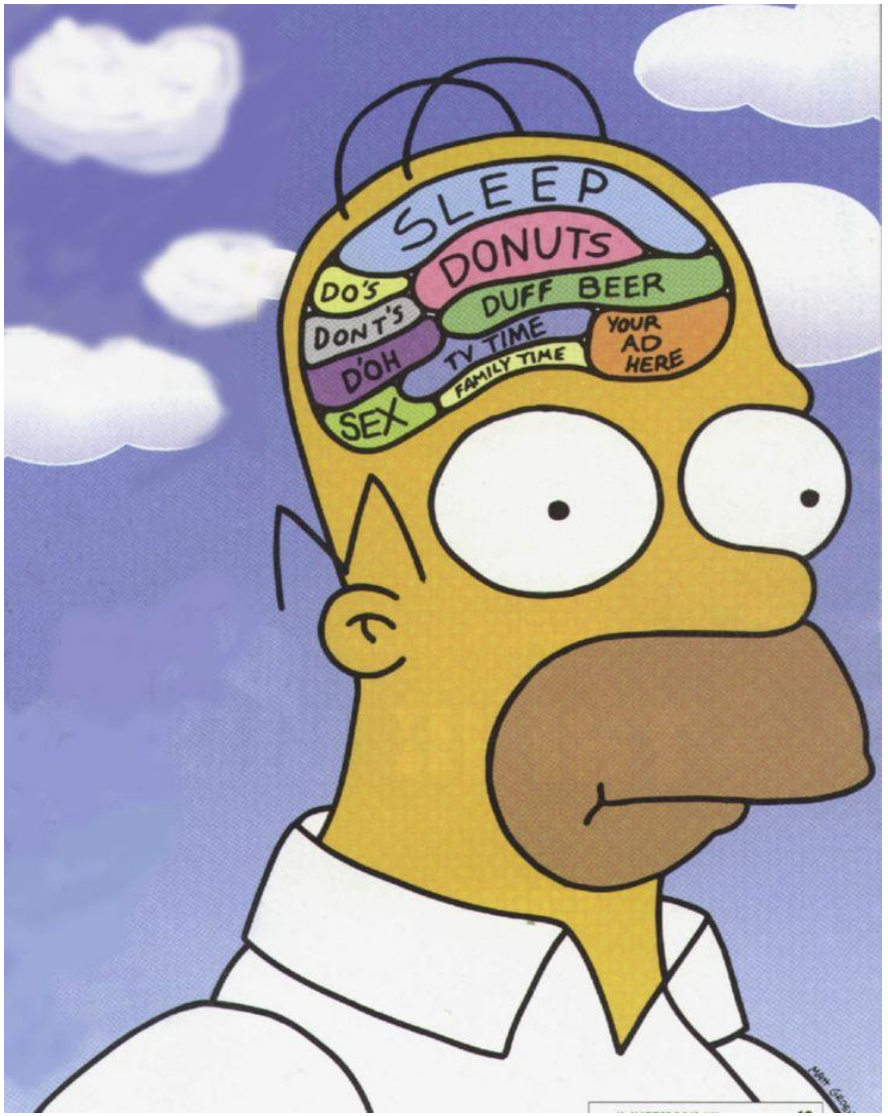

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