



**Asymptomatic Carotid
Surgery Trial (ACST-2)**



6th ACST-2 Collaborators' Meeting in Valencia, Spain

24th and 25th September 2018

Meeting - Palau de Congressos: Tuesday 25th September



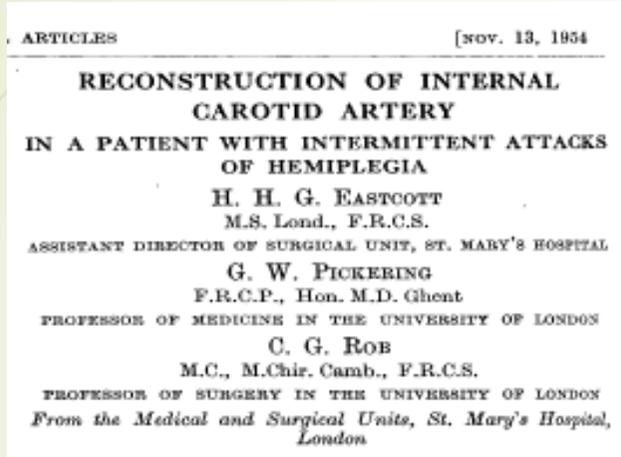
Semieversion CEA as done in Trieste

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Surgical Considerations of Occlusive Disease of Innominate, Carotid, Subclavian, and Vertebral Arteries *

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Recommendation 17	Class	Level
In "average surgical risk" patients with an asymptomatic 60–99% stenosis, carotid endarterectomy should be considered in the presence of one or more imaging characteristics that may be associated with an increased risk of late ipsilateral stroke, ^a provided documented perioperative stroke/death rates are <3% and the patient's life expectancy exceeds 5 years	Ila	B

Recommendation 35	Class	Level
Carotid endarterectomy is recommended in patients reporting carotid territory symptoms within the preceding 6 months and who have a 70–99% carotid stenosis, provided the documented procedural death/stroke rate is <6%	I	A

Recommendation 36	Class	Level
Carotid endarterectomy should be considered in patients reporting carotid territory symptoms within the preceding 6 months and who have a 50–69% carotid stenosis, provided the documented procedural death/stroke rate is <6%	Ila	A

Recommendation 40	Class	Level
When revascularisation is considered appropriate in symptomatic patients with 50–99% stenoses, it is recommended that this be performed as soon as possible, preferably within 14 days of symptom onset	I	A

Recommendation 41	Class	Level
Patients who are to undergo revascularisation within the first 14 days after onset of symptoms should undergo carotid endarterectomy, rather than carotid stenting	I	A



Definitive strategies

Conventional CEA

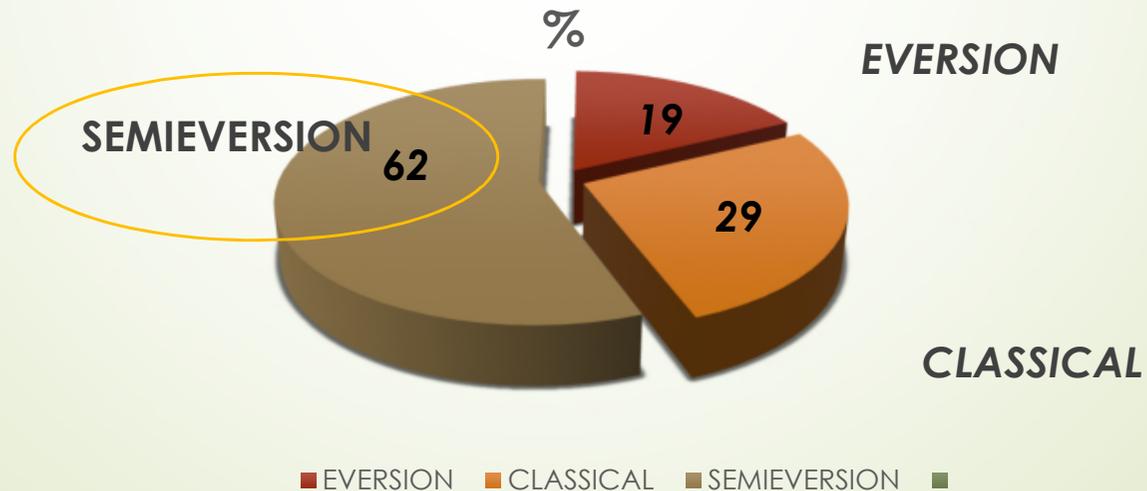
- **Longitudinal arteriotomy beyond the full length of the plaque**
- Full visualization of entire plaque and CEA end point
- Patch closure superior to primary closure
- **Longer clamp times**
- **Use of syntetic material**

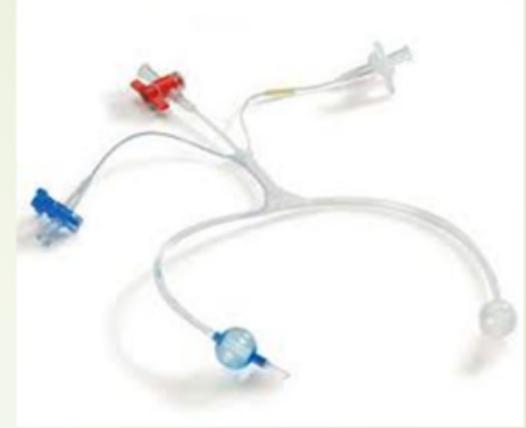
Eversion CEA

- **Complete transection of the bulbous portion of ICA**
- Doesn't require patch angioplasty
- Totally autogenous repair
- Significantly shorter clamp times (EVEREST TRIAL)
- Decreased restenosis rate
- **Difficoultly in shunt use**
- **Visualization of end point**



..favorable aspects of both conventional and everision CEA..



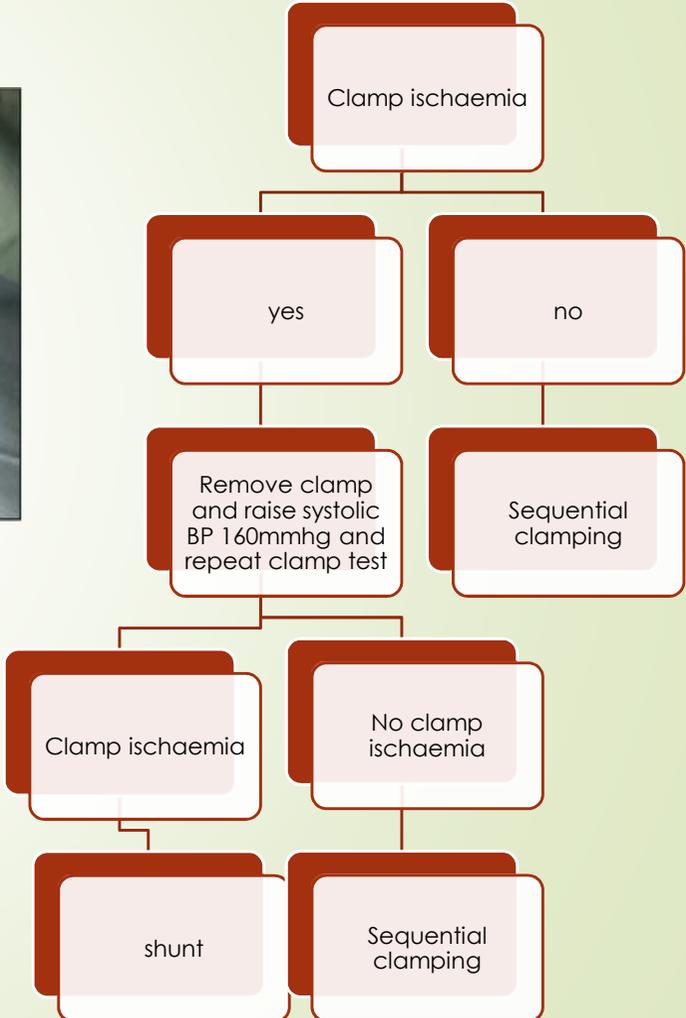
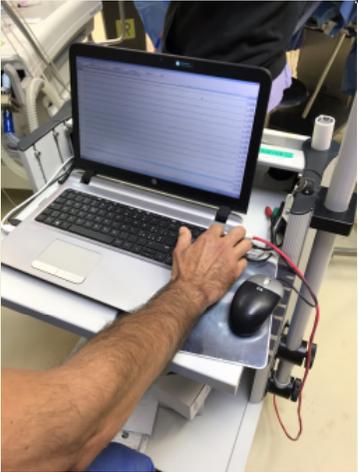
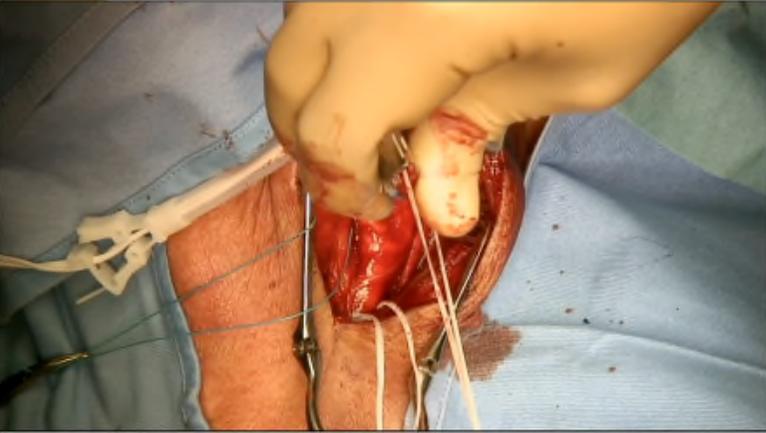


- General anesthesia
- Routine intraoperative EEG monitoring
- Selective shunting

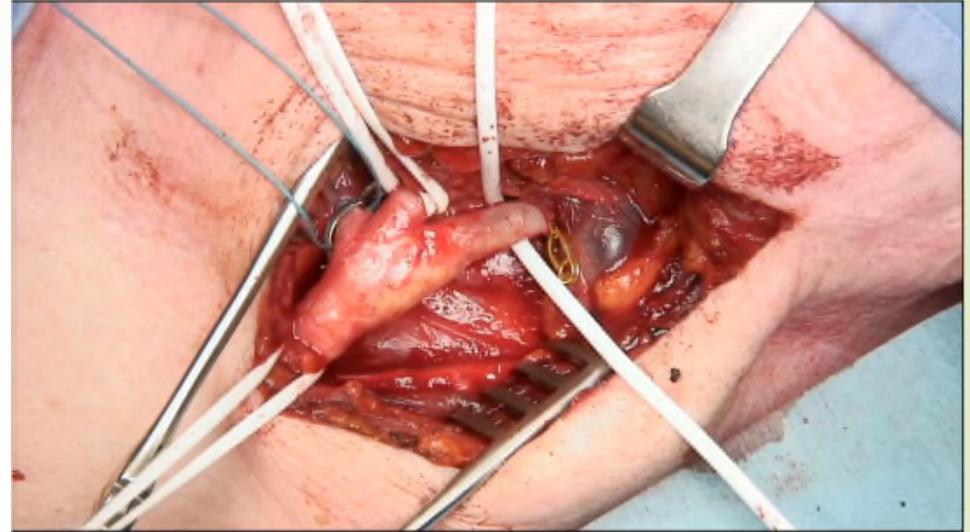
- Supine position neck extension and contralateral rotation
- Higher operating field
- Oblique neck incision on anterior border of sternocleidomastoid muscle
- Jugular vein exposure
- Vessel loops control of common, external and internal CA
- Circumferential CCA, CEA and CIA surgical exposure



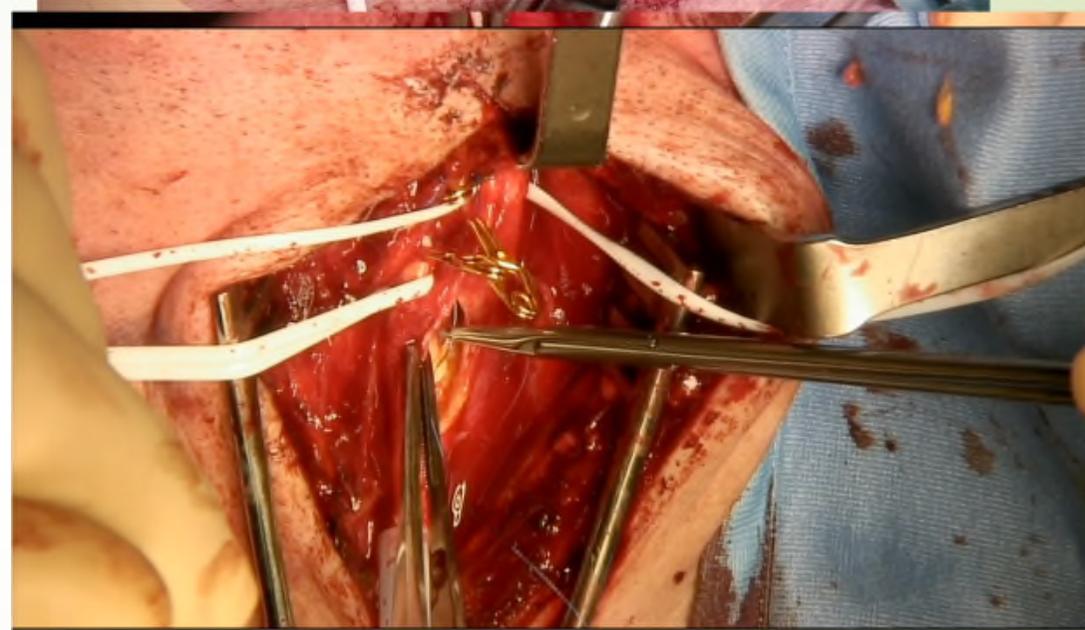
Systolic BP > 140mmhg



- Sequential clamping
- Arteriotomy from CCA 1.5 cm adjacent the bifurcation extended onto the proximal bulbous portion of ICA
- Back flow allows debris removal
- A plane is developed along internal elastic lamina
- plaque is raised out of the artery lumen transected and lifted out
- ECA eversion
- ICA eversion caudal retraction of the plaque and cephalad retraction of anterior ICA border



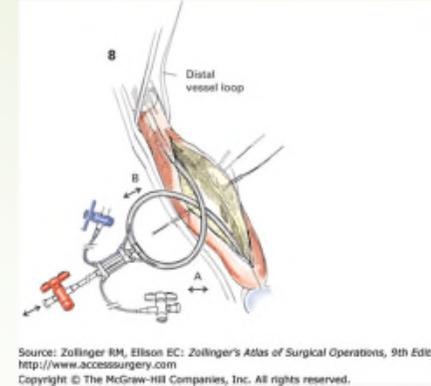
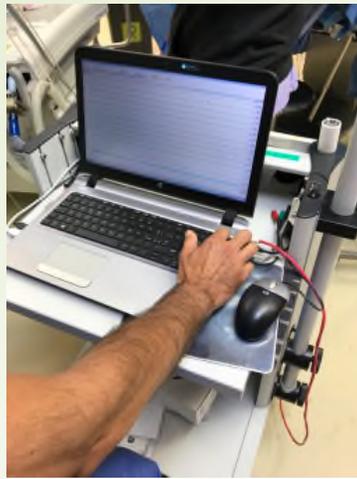
- After visualization of normal healthy intima the plaque is freed from distal ICA
- Plaque usually **«finds its own»** end point (flute mouthpiece aspect)
- Loose fibrous debris are removed manually and with heparinized saline flush
- Back flow allows further removing of debris
- CCA eversion
- Arteriotomy closure in 6.0 prolene continuous running suture
- Sequential removig of vascular clamps resthablishing flow first into ECA





Tips and tricks

- **Carotid bifurcation circumferential mobilization**
 - Eversion procedure
- **Arteriotomy limited to the carotid bulb**
 - Obviates the need of patch closure
 - Minimal risk of narrowing ICA lumen
- **Right plane of dissection (internal elastic lamina)**
- **Plaque integrity**
 - Clean post CEA field



Cerebral clamp ischaemia
Shunt insertion

Conventional CEA
and patch closure
Shunt insertion before
CEA

Semi eversion CEA
ICA CEA first
Shunt insertion

Semieversion CEA: ideal technique?

- Not statistically difference in early stroke and death rate, cranial nerve injury and follow up restenosis rate
- Simplifies endarterectomy procedure
- Teaching straightforward
- Shorter clamp time and operative time
- Resource savings
- Inability to obtain an healthy idistal intima
- Easy conversion to classical procedure
- Redundant ICA





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Thank you for your attention



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