

**20th VASCULAR SOCIETY OF EGYPT
INTERNATIONAL ANNUAL CONFERENCE**

In Collaboration With

**7th ANNUAL AL-AZHAR VASCULAR
SURGERY CONFERENCE**

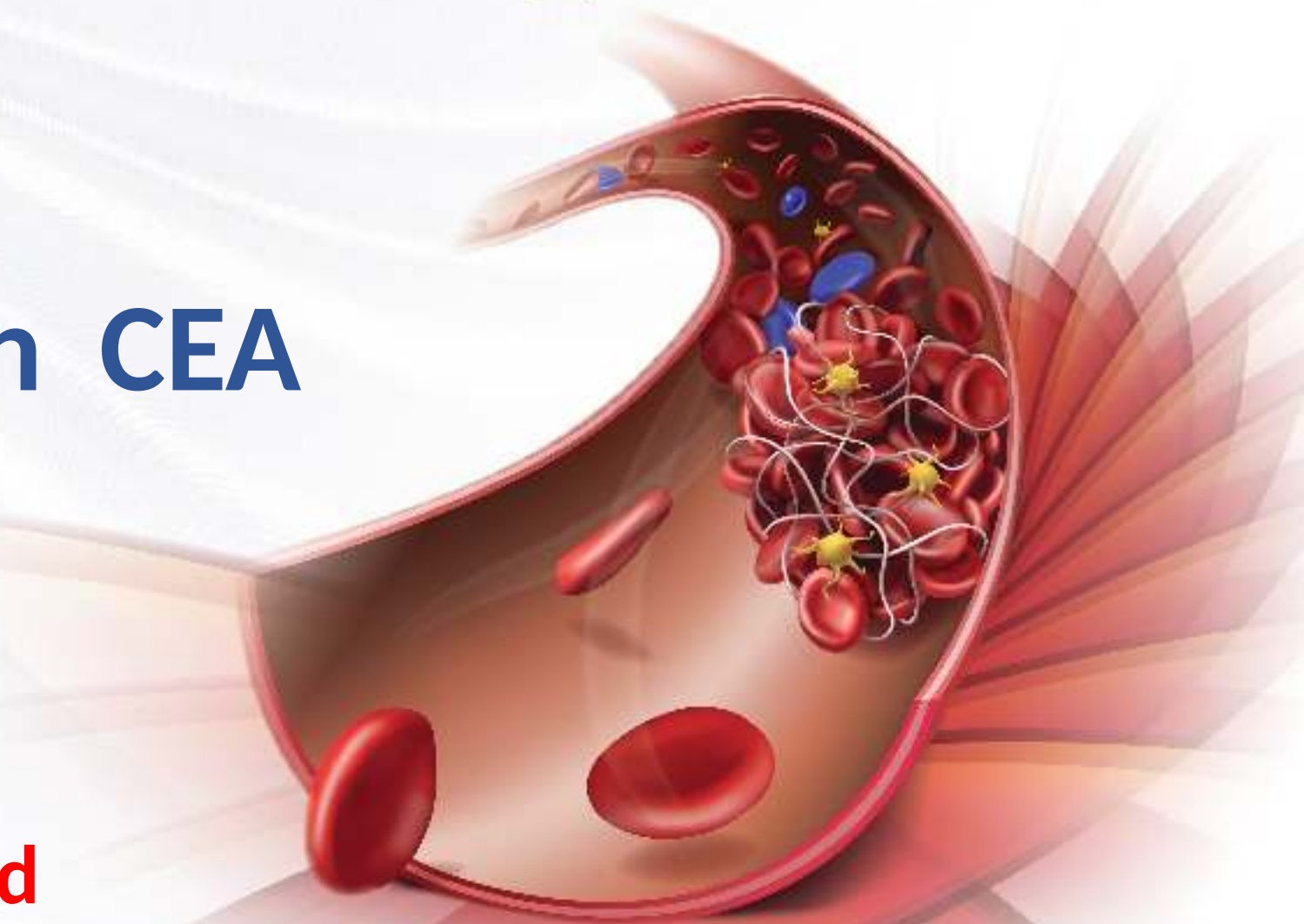
**EVIDENCE BASED
VASCULAR PRACTICE**

Minimal incision CEA (MICE).



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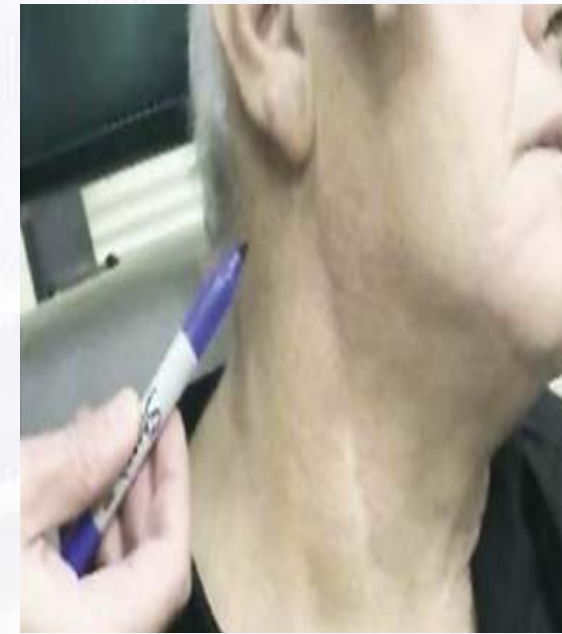
- Patients requiring surgery are naturally attracted to shorter incisions because they tend to cause less pain and are esthetically more appealing.
- A large incision may not be necessary for short focal bifurcation disease, and limited incisions can be extended proximally or distally.



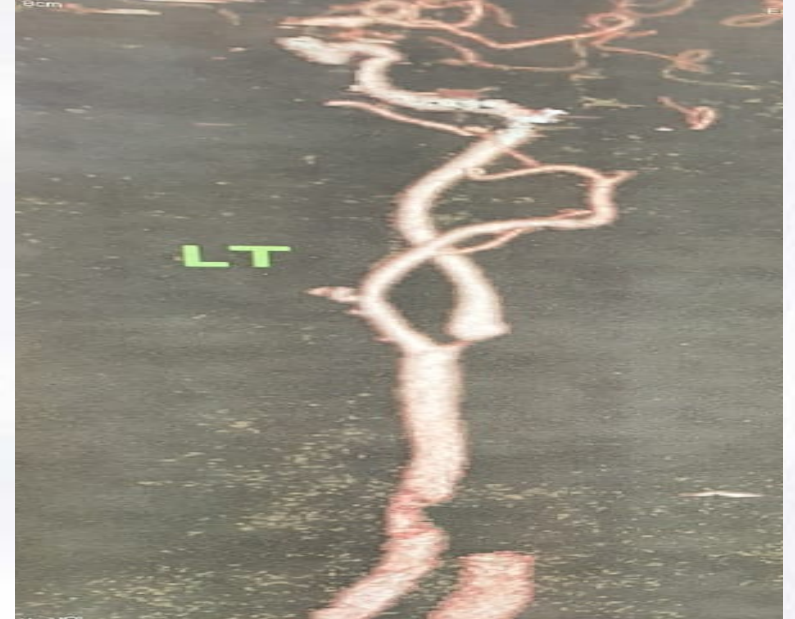
Furthermore, we found that the traditional long incision from the sternal notch to the mastoid is simply unnecessary.

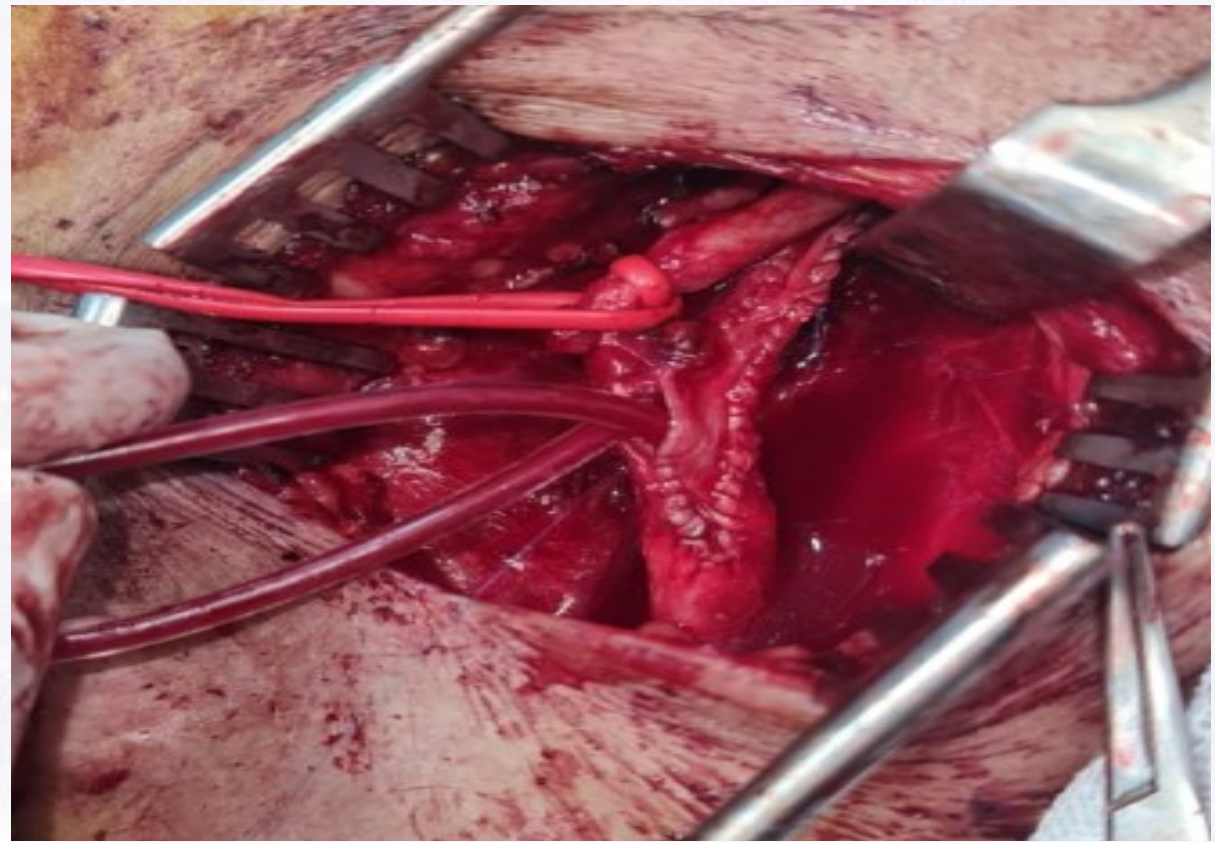
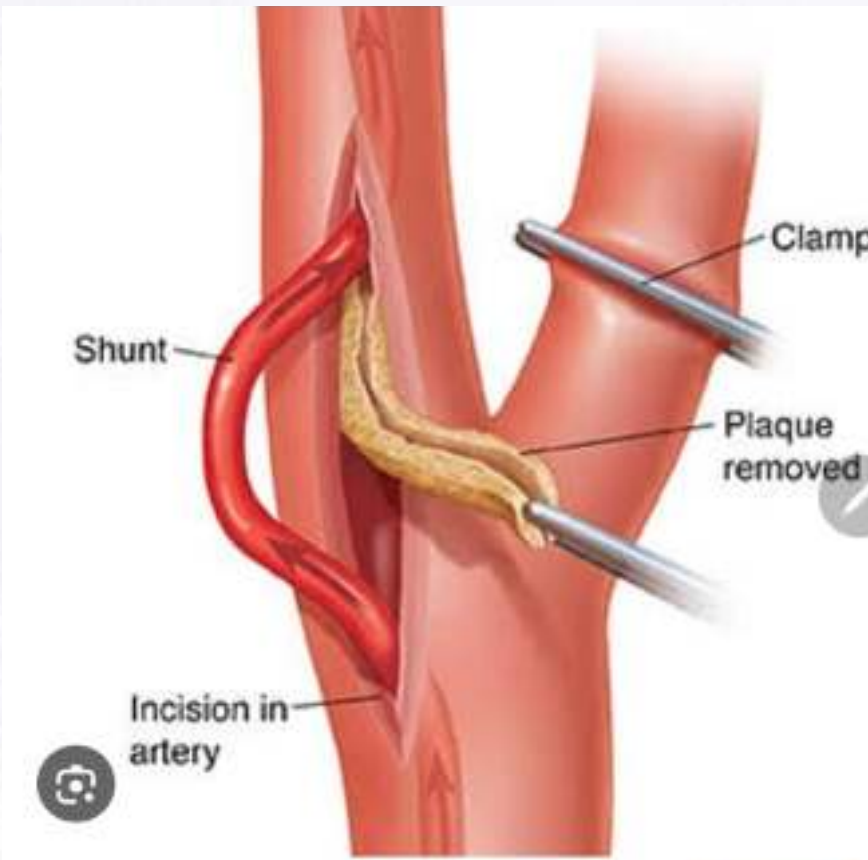


- Because a duplex machine is available in the operating room at all times, and all of the attending vascular surgeons and vascular fellows are able use the machine .
- The duplex, was used to mark the location of the carotid bifurcation on the skin.
- The length of the lesion and depth of the artery was assessed and limited skin incision was performed over the bifurcation.



- If at any time during the procedure the operating surgeon thought that the length of the incision was limiting the exposure, the incision was lengthened .
- Shorter incisions were required with eversion CEA.





Longer incisions were required when an shunt was used

Ascher et al (J Vasc Surg 2005

Mini Transverse Incision

- The length of the incision is approximately 4 cm which can be extended if exposure is inadequate.
- A similar type of experience has also been borne out by some authors who performed CEA through a transverse incision with no increase in transitory peripheral nerve injury, stroke and mortality.
Assadian A, et al 2005
- Obviously, performing CEA with a transverse incision involves some retraction and stretching, arguably even more than that associated with a limited vertical incision.



THE EVERSION TECHNIQUE

A small (typically < 4-cm length) incision is made over the carotid bifurcation, which has been identified by B-mode ultrasound.



- Prior data have suggested that patient assessment of the cosmesis of the incision and pain is superior when comparing transverse and traditional long vertical incisions **A V Gavrilenko et al. 2020.**
- In addition, by limiting the exposure solely to the diseased area, this further extends the recent trend to simplify the procedure of CEA.
- This smaller incision should be associated with less local numbness and scarring .

Article in Russian A V Gavrilenko et al 2020

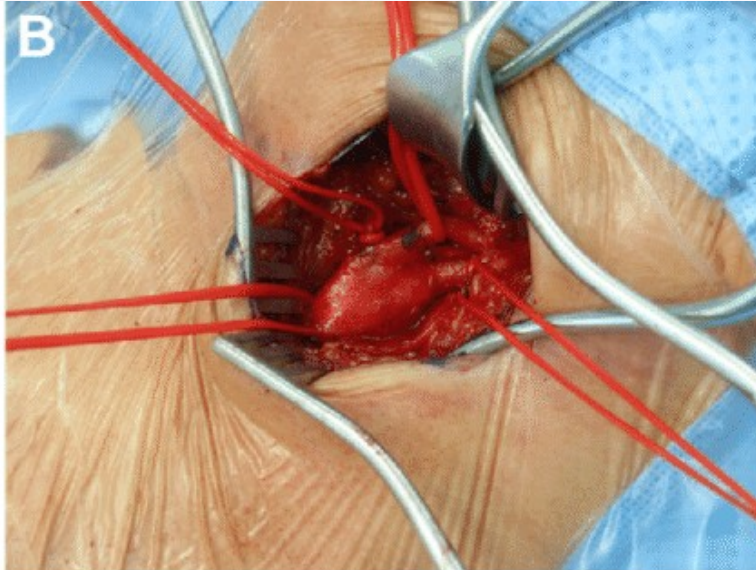
Advantages of minimally invasive approach for carotid endarterectomy

Objective:

To identify the advantages and disadvantages of different approaches for carotid endarterectomy (conventional, longitudinal and transverse incision).

Conclusion:

- Transverse minimal skin incision for carotid endarterectomy is a safe alternative to classic longitudinal incision and reduces the risk of postoperative complications with significant cosmetic effect.



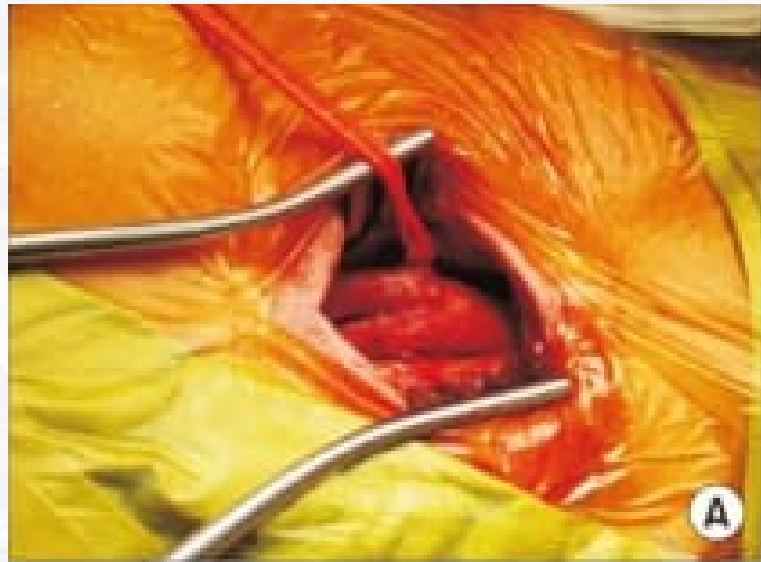
Byeng H. Jeon 2022

- Two self-retaining retractors are placed at 90-degree angles to each other and dissection is carried out in the same fashion as for the standard carotid exposure.
- Use of the self-retaining retractors allows exposure of up to 1.5 to 2 cm on each side of the carotid bifurcation.
- Small bulldog clamps, which can be placed deep in the wound, allow the length of the exposed carotid arteries to be longer than the length of the skin incision both in the transverse and longitudinal mini-incision.



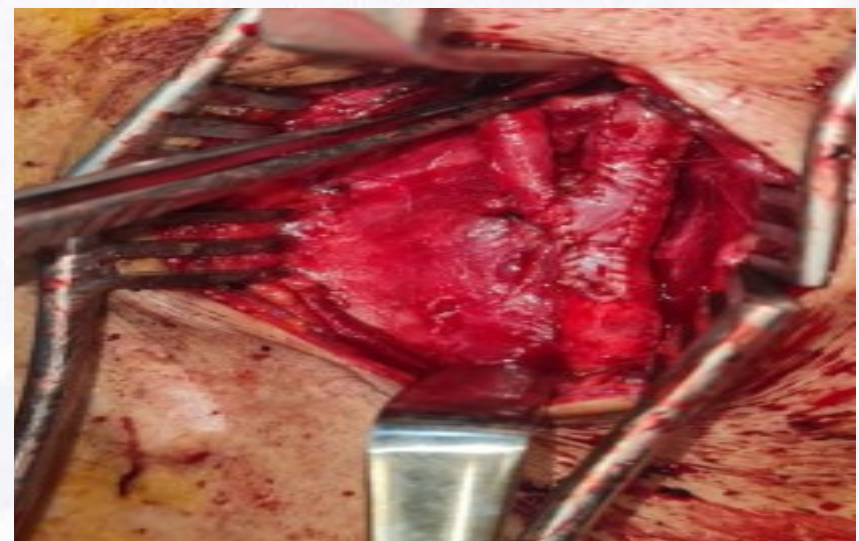
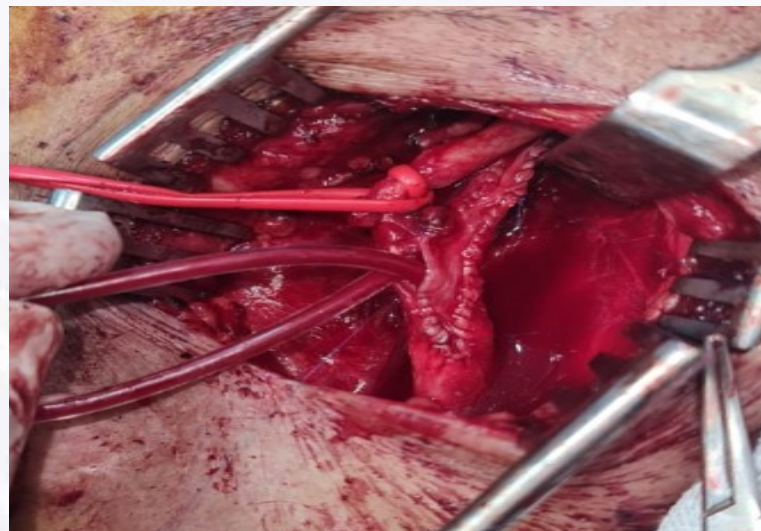
Longitudinal Mini-Incision

- Duplex is used to identify and mark on the skin the carotid bifurcation and the anticipated skin incision.
- Length of the incision depends on the depth and extent of the lesion and varies from 2.5 to 5cm.
- Use of two self-retaining retractors and skin laxity allow for traction and exposure of a longer segment of carotid arteries than the length of skin incision itself .



Byeng Hun Jeon et al , 2022





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Conclusion

- Minimal incision CEA (MICE) is a safe alternative to standard carotid endarterectomy.
- This is performed by utilizing duplex ultrasound scanning in O.R. to, localize the disease, and minimize the magnitude of the operation via shorter incisions with positive esthetic results .
- MICE (transverse or longitudinal) which have been popularized in the recent years, best for eversion endarterectomy



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THANK YOU



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