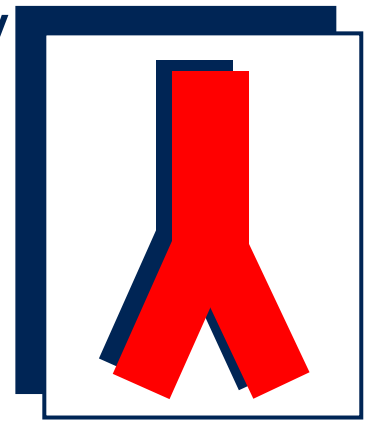


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Managing Carotid Stenosis

Managing Carotid stenosis has changed a little over the last 10 years or so. The principle changes are that we generally do not offer surgery to asymptomatic patients whatever the grade of stenosis they have.

SUMMARY OF TREATMENT INDICATIONS

>50% stenosis of ICA with contralateral localising signs will benefit from carotid endarterectomy if surgical risk is reasonable.

The benefit is proportional to the grade of stenosis and the severity of the event. Stroke is higher risk than TIA, which is higher risk than Amaurosis fugax and therefore stroke victims have the most to benefit.

Carotid stents have been shown to have a higher risk than endarterectomy in all areas and therefore are used very infrequently in modern vascular practice.

SYMPTOMS

In general we recognise three symptom groups as being associated with carotid stenosis.

Stroke: An established and permanent neurological deficit in the territory of the Middle Cerebral Artery associated with the high grade internal carotid stenosis may have come from the carotid. Other source of embolis, like Atrial fibrillation, make the certainty lower. Importantly, and often confusing for patients is that the peripheral symptoms are contralateral to the ICA stenosis. Infarcts in other cerebral territories are much less likely to have originated from a carotid embolis.

TIA: This is a temporary localised neurological deficit. Importantly, it includes weakness or sensory loss in an arm or leg, slurring of the speech, aphasia or facial asymmetry. As with strokes, the symptoms are experienced on the opposite side.

Amaurosis Fugax: Translated directly this means fleeting blindness. It is due to an embolis passing through the retinal artery. This occurs on the SAME side as the carotid stenosis. In some the blindness may be permanent.

Global symptoms: The carotid stenosis causes neurological symptoms through emboli passing into the distal circulation. It is therefore impossible for this to cause global symptoms like dizziness, light headedness, syncope,

loss of memory, dementia and so on. Patients with these symptoms are regarded to be asymptomatic.

ASYMPTOMATIC PATIENTS

Until some years ago asymptomatic patients with a stenosis of greater than 70% would have been offered an endarterectomy. The advent of wide spread statin and antiplatelet medication means that the natural history of asymptomatic patients is rather better than when the initial trials were conducted. This means that the margin of benefit for these patients has declined to the point where surgery carries so little benefit that it is usually not offered. That being said there are a small group of patients that might benefit. Factors to consider would be:

- Bilateral stenosis
- Male patient (Women tend to have twice the surgical risk – probably because they have smaller vessels)
- Young patient (Has longer to benefit from the surgery)
- Patients undergoing cardiac surgery on pump
- Patients with previous history of carotid related stroke or TIA – on the other side.

SURVEILLANCE

Surveillance of carotid stenosis was common in the era of widespread endarterectomy for asymptomatic disease, but in the current paradigm probably confers little or no benefit. In a young patient who was known to have carotid disease an interval scan after 5 years would be reasonable but not essential.

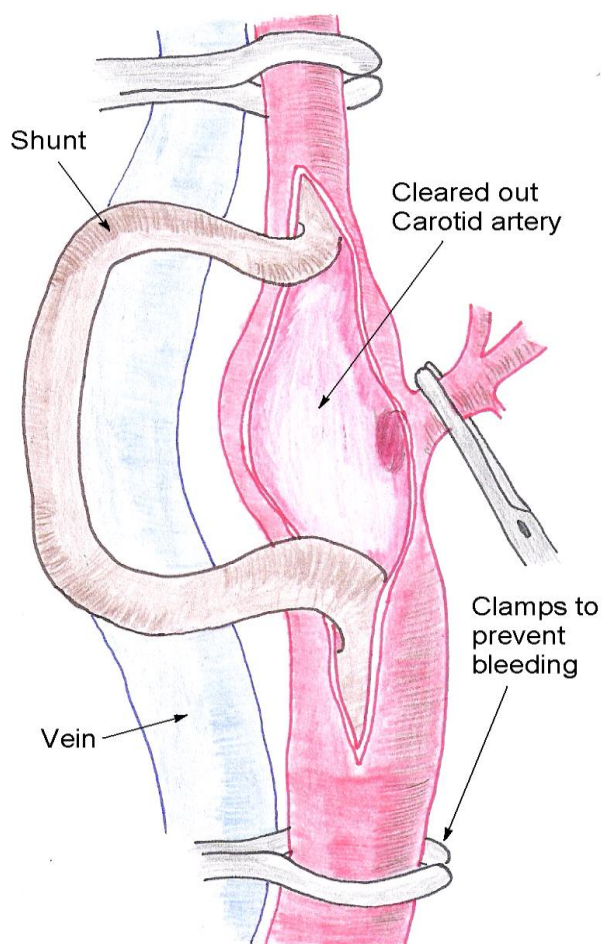
MANAGING GLOBAL SYMPTOMS IN THE PREENCE OF A HIGH GRADE CAROTID LESION

The presence of worrying symptoms in a patient who has been found to have a tight carotid stenosis is tricky. Patients and many doctors find it hard to believe that the stenosis is not a significant issue. Messaging in this area is important. The carotid stenosis does indeed imply a higher risk of future stroke, the message that needs to be conveyed is that medical treatment is the preferred pathway and confers the same benefit as surgery. IN simple terms surgery will not reduce their stroke risk significantly beyond the use of statins.

Statin intolerance is a real problem in this day and age. Vascular surgeons have discussed the role of Carotid endarterectomy in a patient intolerant of statins, in general we have agreed that this would be an area of consideration but few report having to deal with this commonly. It is important I guess to be aware that true statin intolerance is relatively rare.

LOW GRADE CAROTID STENOSIS

The research does not support endarterectomy in patients with a stenosis less than 50%. Having said this there are patients with convincing symptoms in the presence of a low grade stenosis. When these symptoms have occurred more than once the carotid might be considered to be the source. In this setting a duplex by a highly experienced vascular ultrasonographer (available in vascular practices only) may give some indication of the nature of the plaque and its potential to be the source of the problem.



WHAT DOES SURGERY INVOLVE?

Carotid endarterectomy involves opening the artery and clearing the plaque from the carotid bifurcation. The artery is closed with a patch to prevent re-stenosis. Usually the surgery is undertaken under local anaesthetic so brain function can be monitored during the surgery. Surprisingly for many this is extremely well tolerated. If neurological symptoms occur during the surgery a shunt is used to

restore circulation to the brain while the surgery is completed.

CAROTID OCCLUSION

Carotid occlusion can be quite frightening to consider. The truth is that if the artery has occluded there is nothing more to be done. We do not attempt revascularisation because the occlusion always extends into the cranial cavity. If the occlusion has occurred with no or minimal symptoms then this suggests that the collateral circulation is adequate for normal brain circulation.

SUBCLAVIAN STEAL SYNDROME

This is an unusual problem where due to an occluded proximal left subclavian artery blood flow in the vertebral artery is reversed. In this circumstance the vertebral artery acts as a collateral to the arm. Similar to situations discussed earlier, this can be worrying, but truthfully it is usually a very benign condition. If the patient has significant symptoms in the arm this can be treated with a bypass. Cerebral symptoms in association with this are really very unusual.

CAROTID DISSECTION

A dissection of the carotid artery is an unusual finding. It may be caused by trauma to the neck which may be very trivial, but I have seen it in the absence of any history of trauma. There is no surgical solution for this unfortunately, they are treated expectantly with aspirin alone. There is some evidence that if the carotid remains patent after a dissection that it may become aneurysmal in time, however, this is rare. We do tend to keep them under surveillance. Exactly what we are waiting for or how long to keep them surveyed is at this stage uncertain.