**Indications for surgical/endovascular treatment: PAD vs AAA vs Carotid Artery Disease**

**PAD:**

* 3 Categories of PAD: asymptomatic disease, intermittent claudication (IC), and limb-threatening ischemia
* Claudication presents with cramping pain or tiredness in calf, thigh, or hip while walking.
* PAD patients may also present with some degree of diminished femoral, popliteal or pedal pulses as well as **tissue loss** (ulceration, gangrene) and **resting pain** (cramping associated with rest and elevation/laying flat).
* ***Conservative treatment for asymptomatic and IC*** includes exercise and reducing risk factors such as smoking cessation and statin therapy.
* ***Revascularization is* not *indicated*** in asymptomatic PAD.
* Patients with progressive reduction in walking distance in spite of risk factor modification and supervised exercise programs and those with limitations that interfere with ADL’s should be referred for consultation to a vascular surgeon.
* ***Immediate revascularization is indicated*** in all cases of acute arterial thrombosis.
	+ Signs of neurologic injury indicate such severe thrombosis/generalized PAD that collateral flow is inadequate to maintain limb viability and revascularization should be performed within 3 hrs
* ***Percutaneous angioplasty and stenting indicated*** if atherosclerotic lesions are focal.
* ***Surgical intervention***, such as aorto-femoral or axillo-femoral bypass graft, is indicated when there is significant stenosis and/or limb-threatening ischemia.

**AAA:**

* Most AAA’s are asymptomatic until rupture
* AAA measuring 5 cm in diameter are palpable in 80% of cases
* Back or abd pain may precede rupture
* Rupture is catastrophic; presents with hypotension and severe abd pain radiating towards back
* Treatments include open surgical resection and endovascular repair
* ***Elective surgical repair indicated*** if AAA > 5.5 cm or has undergone rapid expansion (> 0.5 cm in 6 months). Abd and or back pain may indicate imminent rupture regardless of AAA diameter.
* ***Surgical repair is* not *indicated*** in Inflammatory aneurysm.
* ***Endovascular repair indicated*** in older patients who may not tolerate open surgery.
* In patients with significant symptoms of coronary disease, the ***coronary disease should be treated first and the AAA shortly after*** as there will be a subsequent increased risk of rupture.

**Carotid Artery Disease:**

* Assctd with 10-20% of all CVA’s.
* The carotid bifurcation is most frequently affected location, extending towards proximal internal carotid artery
* Sudden onset of focal neuro symptoms in carotid artery distribution, ipsilateral to significant carotid atherosclerotic pathology
* Medical management includes statins, antiplatelets, and antihypertension agents; carotid interventions include carotid endarterectomy (CEA) and carotid artery stenting (CAS)
* ***In symptomatic carotid stenosis patients with life expectancy > 5 yrs, CEA rather than medical mgmt alone is recommended***
* ***CEA rather than CAS is recommended*** in symptomatic carotid stenosis in pts with ***70-99% blockage*** > 5 yrs life expectancy when the following conditions are present:
	+ A surgically accessible carotid lesion
	+ Absence of clinically significant cardiac, pulmonary, or other diseases that would greatly increase the risk of anesthesia and surgery
	+ No prior ipsilateral endarterectomy
* ***CAS rather than CEA recommended*** in ***70-99% blockage*** with any of the following conditions:
	+ A carotid lesion not suitable for surgical access
	+ Radiation-induced stenosis
	+ Clinically significant cardiac, pulmonary, or other diseases that greatly increase the risk of anesthesia and surgery
* ***Medical mgmt. is preferred*** over surgical intervention in patients with symptomatic carotid artery disease and high perioperative complication risk

SOURCES:

Gasper WJ, Rapp JH, Johnson MD. Occlusive Disease: Aorta & Iliac Arteries. In: Papadakis MA, McPhee SJ, Rabow MW. eds. *Current Medical Diagnosis and Treatment 2020*New York, NY: McGraw-Hill; . http://accessmedicine.mhmedical.com.york.ezproxy.cuny.edu/content.aspx?bookid=2683&sectionid=225042690. Accessed April 11, 2020.

Gasper WJ, Rapp JH, Johnson MD. Abdominal Aortic Aneurysm. In: Papadakis MA, McPhee SJ, Rabow MW. eds. *Current Medical Diagnosis and Treatment 2020*New York, NY: McGraw-Hill; . http://accessmedicine.mhmedical.com.york.ezproxy.cuny.edu/content.aspx?bookid=2683&sectionid=225043243. Accessed April 11, 2020.

Shah N, Ameen M, Saad M. 10 Real Cases on Peripheral Artery Disease and Carotid Artery Disease: Diagnosis, Management, and Follow-Up. In: Saad M, Bhandari M, Vittorio TJ. eds. *Patient Management in the Telemetry/Cardiac Step-Down Unit: A Case-Based Approach*New York, NY: McGraw-Hill; . http://accessmedicine.mhmedical.com.york.ezproxy.cuny.edu/content.aspx?bookid=2725&sectionid=225760105. Accessed April 11, 2020.