

Peripheral Vascular Disease (The Lower Extremity)

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Radiology

Arnold S. Rappoport, M.D.

Examination

- All of the following are the more common risk factors for the development of peripheral vascular disease EXCEPT**
 - diabetes mellitus
 - hypertension
 - cigarette smoking
 - a family history of hyperlipidemia
 - hypothyroidism
- Claudication is:**
 - pain, which manifests at rest in bed.
 - pain that is experienced while walking and stops when the patient is at rest.
 - where the decrease in blood supply is so significant that it results in poor nutrition to the skin of the feet and legs.
 - where the decrease in blood supply is so poor that it results in coldness and discoloration of the skin.
 - where the decrease in blood supply is so poor that it results in skin breakdown, ulceration and ultimately gangrene.
- Regarding the anatomy of arterial blood flow for the lower extremities, the superficial femoral artery is the main vessel responsible for lower extremity circulation. It becomes the _____ just above the knee, passes through the knee, and then bifurcates into three vessels.**
 - peroneal artery
 - posterior tibial artery
 - popliteal artery
 - anterior tibial artery
 - deep femoral artery
- Regarding the anatomy of arterial blood flow for the upper extremities, one of the bifurcations of the brachial artery is the _____ artery.**
 - subclavian
 - tibial
 - popliteal
 - radial
 - axillary
- The majority of patients with peripheral vascular disease have complaints that involve the lower extremities. The basic clinical examination for these patients is to obtain a history that looks for risk factors and establishing the _____ distance.**
 - ischemia
 - Buerger
 - discoloration
 - claudication
 - paresthesia
- In the clinical examination of the lower extremities, the femoral pulse in the groin, the popliteal pulse behind the knee and the two pedal pulses are palpated. These two pedal pulses are**
 - the dorsalis pedis artery and posterior tibial artery

- b. the peroneal artery and the anterior tibial artery
 - c. the anterior tibial artery and the dorsalis pedis artery
 - d. the posterior tibial artery and the peroneal artery
 - e. the popliteal artery and the peroneal artery
7. **Basic non-invasive testing for the lower extremity involves recording the blood pressure at the ankle utilizing a blood pressure cuff applied around the calf and measuring the pressure of the pedal arteries. These ankle pressures are then compared with an arm pressure. The ratio of ankle to arm pressure is an important value called the Ankle-Brachial Index. A normal index is**
- a. less than 0.2
 - b. 0.2 to 0.4
 - c. 0.4 to 0.6
 - d. 0.6 to 0.9
 - e. 1 or just above 1
8. **An Ankle-Brachial Index that is less than 0.2 is seen with**
- a. claudication
 - b. a normal leg because this is a normal value
 - c. lower extremity pain that occurs with exercise
 - d. gangrene
 - e. lower extremity pain that occurs at rest
9. **Angiography is the definitive test for demonstrating the arterial anatomy. For a lower extremity evaluation**
- a. the examination only needs to involve the area in question.
 - b. the examination must include the abdominal aorta and the entire lower extremity to the foot.
 - c. the findings of the angiogram really do not need to correlate with the clinical history and examination.
 - d. the examination only involves the vascular tree from the knee down.
 - e. the examination only involves the deep femoral artery to the foot.
10. _____ are contraindications to performing angiography.
- a. Hypertension and Diabetes
 - b. Renal failure and impairment of blood clotting mechanisms
 - c. Hypertension and heavy smoking
 - d. Diabetes and heavy smoking
 - e. Diabetes and a family history of hyperlipidemia
11. **For angiography, access to the patients vascular system is through the femoral artery when these are patent as determined by the presence of a palpable pulse. If these are absent, angiography is then performed through the**
- a. right axillary artery
 - b. right popliteal artery
 - c. left popliteal artery
 - d. left axillary artery
 - e. inferior vena cava
12. **The technique used for catheterization (known as the Seldinger technique) is performed by inserting a needle into the femoral artery. A safety guidewire is then passed through the needle, followed by advancing a _____ in diameter angiographic catheter over the guidewire and positioning it in the aorta for the abdominal aortogram.**
- a. 1 French
 - b. 3 French
 - c. 5 French
 - d. 8 French

e. 10 French

13. When the angiogram is completed, the catheter is removed, manual compression is applied to the groin to insure that bleeding stops, and then the patient must rest with a straight leg for an additional _____ to insure a satisfactory seal of the puncture site before being able to ambulate.
- two hours
 - four hours
 - eight hours
 - twenty-four hours
 - twelve hours
14. When the collateral vessels are inadequate to supply enough blood to nourish the tissues at rest, the various stages of ischemia will develop, ultimately leading to gangrene. These stages of ischemia include all of the following EXCEPT
- coldness
 - discoloration
 - skin breakdown
 - ulceration
 - claudication
15. Stenosis or occlusion of the iliac vessels (pelvic vessels) is referred to as _____ disease.
- outflow
 - inflow
 - distal
 - Buergers
 - Seldingers
16. Diabetics commonly have _____ disease since the smaller arteries are involved.
- distal
 - inflow
 - outflow
 - Buergers
 - Seldingers
17. Patients who have outflow disease typically complain of claudication in the _____.
- buttocks
 - feet
 - calves
 - thighs
 - knees
18. All of the following are the more common complications related to angiography EXCEPT
- bleeding
 - reactions to the contrast material
 - problems related to the insertion of the guidewire or angiogram catheter
 - loss of the affected limb
 - problems related to the insertion of the angiogram catheter
19. Problems related to the insertion of the guidewire and or catheter involve intimal dissection of the inside wall of the artery. When this occurs, the catheter tip or guidewire peels off an atheromatous plaque that is located on the inside wall of the blood vessel. This might lead to
- the development of an aneurysm in the affected vessel, some time in the future.
 - an allergic reaction.

- c. embolic phenomenon that could occlude a vessel downstream.
 - d. a perforation of the vessel.
 - e. complete occlusion of the vessel.
20. **Buerger's disease or thromboangiitis obliterans is an inflammatory vascular disorder that primarily affects small and medium sized arteries of both the upper and lower extremities. Over time, this inflammatory response is replaced by**
- a. fibrosis and vessel occlusion.
 - b. neovascularization
 - c. arteriosclerosis
 - d. revascularization
 - e. atheromatous plaques



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