**Vascular disorders**

**Identify the appropriate characteristics of chronic arterial and venous insufficiency. (2 points)**

The characteristics of venous insufficiency and chronic arterial include rest pain and pain while walking called intermittent claudication. Rest pain is the pain that occurs especially in the foot while at rest. The pain is worse especially in bed time at night. Intermittent claudication is the cramping pain that occur in the calves, hip, and buttocks muscles. Normally, the calf muscles are the most affected and the patient describes a discomfort cramping characterized by pain. During the initial stage of claudication, patients are able to walk through the pain. As the disease progress, the patient is unable to walk normally as the claudication pain causes limping. The pain can only be relieved by resting. Claudication symptoms can be mimicked by other conditions such as nerve problems or arthritis. These pains occur because there is blocking or narrowing of the main artery taking blood to the limbs caused by hardening of the arteries.

**What are the risk factors for peripheral arterial disease (PAD)?  Which risk factors are present for R. L.? (2 points)**

Some of the risk factors of Peripheral Arterial Disease include diabetes, high cholesterol or a family history of cholesterol, kidney disease, high blood pressure, smoking being overweight and age above fifty years. The risk factors present for R.L include smoking and being overweight. He has a body mass index of thirty. A normal BMI for men ranges from eighteen to twenty five. Overweight and obesity is linked to hyperlipidemia. Elevated cholesterol in blood causes attachment of the cholesterol to plaque buildup. The buildup leads to narrowing of the arteries causing atherosclerosis. In addition, cigarettes contain tobacco that is harmful in two ways. Firstly, cigarette smoke narrows the small vessels reducing the amount of oxygen and blood to the muscles. Secondly, smoking speeds up the hardening of arteries. This the main cause of the problem.

**What diagnostic studies would you anticipate the provider to order for R. L.? Explain the rationale behind your choices. (1 point)**

The most accurate diagnosis studies to order for R.L is Magnetic Resonance Angiography (MRA). This is a type of magnetic resonance imaging which uses pulses of radio wave or magnetic field to provide clear pictures of the blood vessels without radiation. MRA combines an MRI scanner with a contrast injection dye. The dye highlights the arteries and the blood flow. This diagnostic test is suitable for R.L because a computer combines the images into a three dimensional representation of the surrounding tissues and arteries. Hence, the problems with the blood vessels that is causing reduces blood flow is detected.

**What complications may occur in patients with PAD? (1 point)**

Peripheral Artery Disease is associated with two complications; risk of stroke or heart attack and Ischemia. Ischemia is a condition that increases the risk of infection due to reduced blood flow. This causes tissue death and decay called gangrene. Reduced blood flow is caused by plaque build-up in the walls of the arteries. If PAD is not treated on time, it usually results in leg amputation. This is because lack of blood flow to the lower limb over an extended time will cause the leg to die slowly causing gangrene. Gangrene is a life threatening condition and often requires surgical amputation of the affected limb. Ischemia is most serious especially in diabetic patients where the wound hardly heals. After the cholesterol plaques have been re-deposited, the platelets move to the injured site forming blood clots. The clot is liberated with blood to the heart causing heart attack or to the brain causing a stroke.

**Discuss at least two collaborative therapies that may be used to treat and manage R. L. (2 points)**

The two collaborative therapies that may aid in treatment and management of PAD include balloon angioplasty and exercise therapy respectively. In the balloon angioplasty, a balloon catheter is inserted into a narrowed portion of an artery. Expansion of the balloon compresses the plaque against the artery wall reducing the blockage. A metal appliance called stent is left in the artery which improves the chances of the blood vessel staying open. Also, home based or supervised exercise therapy with a goal of at least thirty minutes can be administered to R.L. The exercise aids in resolving claudication and improving the quality of life by helping the patient walk normally again.

**References**

 Lewis, S. M., Bucher, L., Heitkemper, M. M., & Harding, M. M. (2017). Medical-surgicalnursing: *assessment and management of clinical problems*. St. Louis MO: Elsevier.