

Subclavian Steal Syndrome



PLAY PICMONIC

Pathophysiology

Stenosis of Subclavian Artery

Stone Sub-clavicle Artery

Subclavian steal syndrome occurs due to the stenosis of the subclavian artery.

Proximal to Origin of Vertebral Artery

P-rocks Vertebrae Archery-artery

The stenosis is proximal to the origin of the vertebral artery, causing retrograde flow in the ipsilateral vertebral artery. This flow will result in hypoperfusion distal to the stenosis. It can also reduce cerebral perfusion during arm use.

Risk Factors

Male

Male

Subclavian steal syndrome tends to occur more frequently in males than in females.

Diabetes Mellitus

Dyed-bead-pancreas

Diabetes may increase the risk of atherosclerosis formation, increasing occlusion possibility in subclavian steal syndrome.

Smoking

Cigarette

Smoking can increase the risk of subclavian steal syndrome due to its relation to cause atherosclerosis.

Signs

>15 mmHg Difference in Systolic BP between Arms

Greater-than (15) Difference in Heart-squeeze Arm

On a blood pressure assessment, a disparity of at least 15 mmHg will be observed between the affected arm and the unaffected arm. The findings of delayed amplitude pulses on the affected side and a bruit in the supraclavicular fossa can also be seen.

Symptoms

Arm Ischemia

[Arm Ice-ischemia](#)

Besides upper extremity exercise, vigorous exercise can also trigger symptoms in a patient. Vigorous exercise can cause upper extremity ischemia, resulting in arm pain, paresthesias, fatigue, or numbness.

Dizziness

[Dizzy-eyes](#)

Patients most commonly present as asymptomatic but can have certain symptoms. Neurological symptoms can occur secondary to vertebrobasilar insufficiency, which can present with dizziness, syncope, vertigo, blurring vision, disequilibrium, tinnitus, ataxia, or hearing loss. Exercise of the upper extremities and rotation of the face in the opposite direction can trigger these symptoms.

Associations

Arteriosclerosis

[Arteries-O-skull-roses](#)

Arteriosclerosis is the most common cause of subclavian steal syndrome.

Takayasu Arteritis

[Taco-sushi](#)

Takayasu arteritis is an inflammatory disease characterized by large-vessel vasculitis affecting the aorta and its branches (left common carotid, brachiocephalic, and left subclavian), resulting in thickening, narrowing, occlusion, or dilation of the involved arteries. It is also often associated with subclavian steal syndrome.

Heart Surgery

[Heart Surgeon](#)

Coronary arterial bypass graft surgeries (CABG) can cause a complication called coronary subclavian steal syndrome which involves the left internal mammary artery (LIMA).

Treatment

Treat Underlying Disorder

[Treat Underlying Attacker](#)

Treating the underlying disorder is an important modality in treating patients with subclavian steal syndrome. Surgery can also help symptomatic patients, including open surgical bypass and extra-anatomic revascularization.