

AB207. Functional subclavian-brachial bypass due to large collateral: a case report

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Abstract: Subclavian artery occlusive disease is usually asymptomatic and does not require intervention. Significant subclavian stenosis is present in approximately 2–7% of the population and is associated with known peripheral vascular disease risk factors. A 58-year-old gentleman presented with right arm weakness, numbness, and claudication. He was otherwise asymptomatic—no chest pain or vertigo. He had a history of traumatic shoulder injury at 7 years of age, with no surgical intervention. Clinical exam revealed an absent right radial pulse, systolic pressure differential in the upper extremities of 30 mmHg. Limited duplex ultrasonography revealed patent distal brachial artery. Computerized tomography (CT) Angiogram revealed complete occlusion of the distal subclavian and axillary arteries with a large

5 mm transverse cervical collateral going around the shoulder and feeding into the proximal brachial artery. A proximal brachial filling defect was also seen, suggesting a plaque. The patient's brachial plaque was endarterectomized, with symptom resolution and return of distal pulses. This patient was asymptomatic for his entire life until this presentation, suggesting he has been living with complete axillary and distal subclavian artery occlusion asymptotically due to successful collateralization with a large diameter transverse cervical vessel, which acted as a functional subclavian-brachial bypass. Subclavian artery stenosis should be considered in patients presenting with upper limb claudication symptoms and inter-arm systolic pressure difference. Further investigations including duplex ultrasonography and angiography studies may reveal subclavian artery occlusion and collateralisation may be seen up to and including complete functional bypass as seen in this case.

Keywords: Bypass; collateral; occlusion; subclavian stenosis; thoracic outlet syndrome

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