Computed angiogram of the upper extremities for diagnosing a rare cause of brachial arterial embolism: The 'Pitcher Syndrome'

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Computed angiogram of the upper extremities for diagnosing a rare cause of brachial arterial embolism: The “Pitcher Syndrom”

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No conflicts of interest

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Embolic brachial artery occlusion most often originates from the heart, the aortic arch or from subclavian artery aneurysms.

A 64-year old man presented with acute upper limb ischemia of the left arm. Duplex sonography confirmed a brachial artery occlusion but no compression of the left subclavian artery or a subclavian aneurysm as source for the emboli. There were no signs for cardiac arrhythmia in the ECG nor cardiac thrombus by echocardiography. Computed angiogram of the thoracic and upper extremity revealed an aneurysm of the left posterior circumflex humeral artery (Panel A and B). Treatment consists in surgical embolectomy at the brachial bifurcation and in ligation of the aneurysm.

Aneurysms of the posterior circumflex humeral artery have been reported for volleyball and baseball players and named as the “pitcher- syndrome”. Repetitive traumas to the arterial wall during throwing motions of the shoulder affect the posterior circumflex humeral artery at the quadrangular space at the neck of the humerus. Embolic occlusion may result from dislocation of the squeezed thrombus from the aneurysmatic sack during shoulder movements. Since this patient did never practice any other sports than yoga it might be assumed that certain specific yoga exercises with shoulder movements might have provoked the artery trauma.

The absence of cardiovascular source for thromboembolism by echocardiography, ECG and vascular sonography demands additional vascular imaging that allows an entire vascular assessment to detect rare sources for embolism.

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Panel A: Three-dimensional volume rendering CT image. Aneurysm of the left posterior circumflex humeral artery (white arrow) and thromboembolic occlusion of the left brachial artery bifurcation (white arrowhead).

Panel B: Transverse CT image. Aneurysm of the left posterior circumflex humeral artery (white arrow).
July 5th 2010

Dear Prof. Lüscher,
Dear Editorial Board,

We would like to submit this flashlight entitled “Computed angiogram of the upper extremities for diagnosing rare cause of brachial arterial embolism: The “Pitcher Syndrome””, to the European Heart Journal.

The image demonstrates that in patients with embolic brachial artery occlusion without evidence for an embolic source in ECG, echocardiography and vascular Duplex sonography, computed angiogram may reveal rare source for embolism such as aneurysm of the posterior circumflex humeral artery (Pitcher-Syndrome). Repetitive and forceful shoulder movements such as “pitching” as performed by baseball players are thought to cause arterial wall damage by the surrounded muscle with subsequent aneurysm formation. Embolism may then occur through a squeezing of the aneurysmatic sack during shoulder actions with dislocation of the thrombus into the axillary artery.

This submission is not being considered for publication elsewhere and none of these images have been published. All authors have read and improved this flashlight.

We thank you for your kind consideration.

Sincerely Yours,

Daniela Reutter, Roger Hunziker and Marc Husmann