

LETTER TO THE EDITOR

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Radial artery aneurysm secondary to professional joystick use, a new industrial disease?

We present a case of a 62-year-old male who presented to the emergency department complaining of rest pain in the 3rd finger of the right upper limb.

The patient's medical record only included dyslipidaemia. He had never smoked and was otherwise healthy. The patient described a history of progressive cyanosis of the 3rd finger over the previous three weeks and rest pain in 24 hours. He also mentioned a lump in his right wrist that had had a progressive growth.

On clinical examination, the patient had cyanosis of the distal phalanx of the third right finger (fig 1a). Radial pulse was noted in the forearm, not on the wrist, and an ulnar pulse was present. A lump could be noted at the wrist on the trajectory of the radial artery (fig 1 b).

Doppler ultrasound showed a thrombosed radial artery aneurysm (RAA) (fig 1c) that began in the distal forearm and extended to the anatomical snuffbox (fig 1d). The origin of the superficial palmar artery was thrombosed, but the deep palmar artery was patent and pulsatile. The maximum diameter of the artery was 3,7 mm at the anatomical snuffbox, and the normal radial artery was 1,6 mm.

On Continuous Doppler three tonal flux was heard

in all digital arteries but the ones of the 3rd finger.

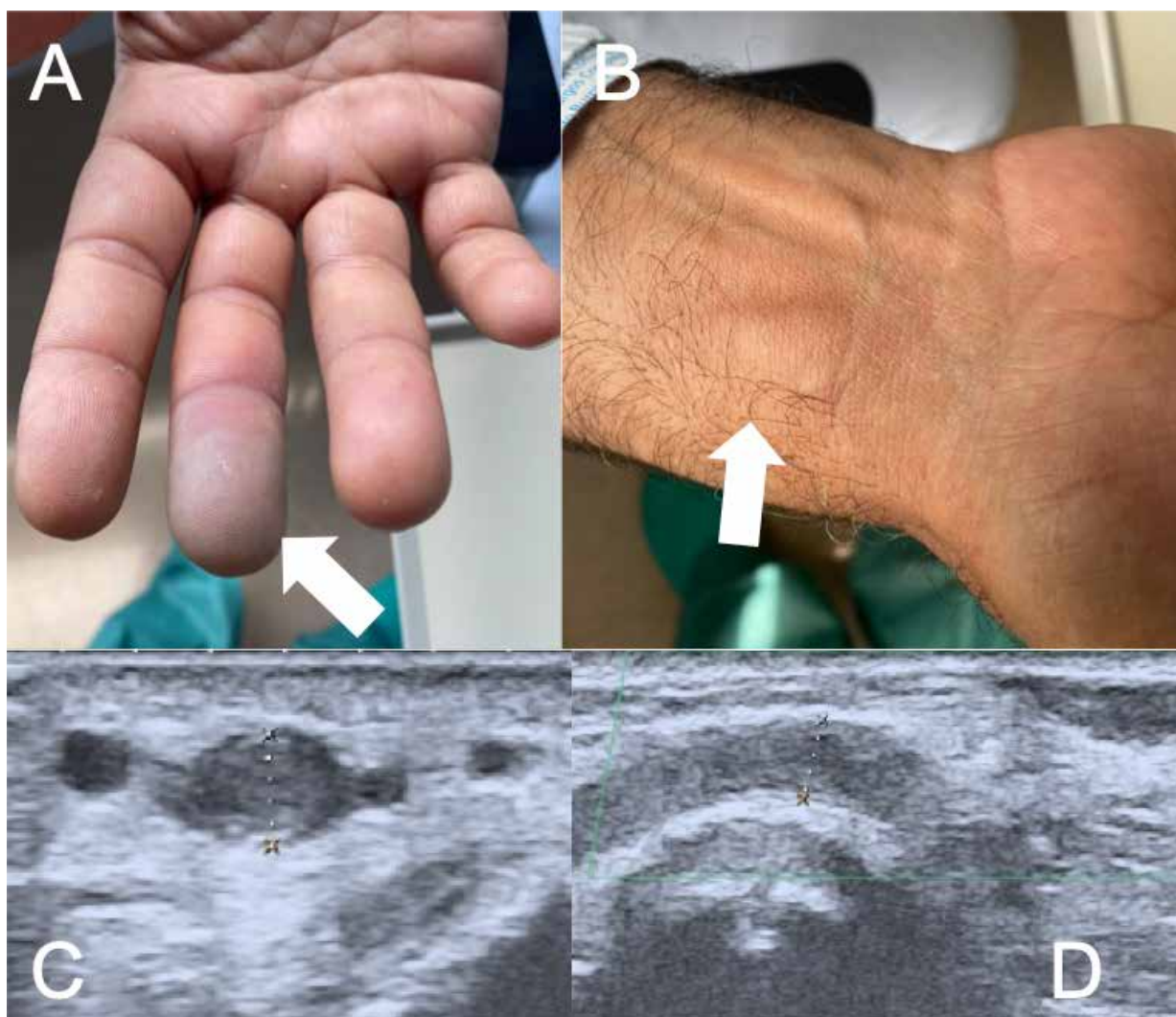
No aneurysms were found in other territories.

The patient denied previous trauma or radial artery catheterization. After careful interrogation, the patient mentioned that his work had implied working 8 hours a day with a joystick for the last 20 years.

Since he was not under any analgesic and unwilling to be admitted at the hospital, he was first managed conservatively and put on anticoagulation (low molecular weight heparin), antiplatelet therapy, vasodilatation and pain control.

Seven days after the institution of the treatment, the patient reported unbearable rest pain and was admitted to the hospital. A peripheral insertion central catheter was placed to start prostanoids, and 24 hours later the patient was transferred to home hospitalization to continue the 21-day treatment. Revascularization was not contemplated. Unfortunately, there was no clinical improvement, and the patient requested phalange amputation, which was subsequently performed under local anaesthesia.

RAA are the more infrequent aneurysm of the upper extremities. Only a few cases of idiopathic RAA are described in the literature¹. In this anatomical region,


Figure 1

A: arrow: digital ischaemia; B: arrow: radial aneurysm; C: Duplex ultrasound distal forearm transversal view radial aneurysm; D: Duplex ultrasound anatomical snuffbox longitudinal view.

iatrogenic pseudoaneurysms are the first cause of a pulsatile mass.

Hypotenar Hammer syndrome is a well-known industrial disease in which the repetitive use of the pneumatic hammer causes intimal damage of the ulnar artery and subsequently aneurysmal degeneration².

As far as the radial artery is concerned Behar³ and colleagues reported another case of RAA secondary to repetitive occupational injury in a 62-year-old taylor in whom the repetitive trauma of the scissor handle caused a RAA in the snuffbox.

In a recent article, RAA was caused by the entrapment of the radial artery by the extensor pollicis longus tendon⁴.

Our patient had used a joystick with his right thumb for over two decades. In this setting, the repetitive movements of the extensor pollicis longus tendon over the radial artery in the anatomical snuffbox might have caused

intimal damage, causing an aneurysm over the years, and finally, there was an embolization to the third finger digital arteries from the thrombosed superficial palmar arch.

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