Posttraumatic pseudoaneurysm of the proximal ulnar artery

A Özelçi, U Yetkin, M Akyüz, ? Yürekli, A Gürbüz

Citation

Abstract
Ulnar artery pseudoaneurysms are rare lesions. We describe a case of posttraumatic pseudoaneurysm of the proximal ulnar artery. Open surgical repair must be the standard approach for the symptomatic and rapidly enlarging pseudoaneurysm.

INTRODUCTION
Vessel trauma can cause systemic, regional and local pathophysiological problems. Proximal ulnar artery aneurysms, including pseudoaneurysms, have not been described in the English literature.

CASE PRESENTATION
An 18-year-old man was injured with a piece of glass 3 weeks ago. He admitted to our clinic for progressive swelling and pain on the medial part of his right forearm. Twenty days after injury, he developed a pseudoaneurysm of the right proximal ulnar artery (Figure 1).

Figure 1
Figure 1: Pseudoaneurysmal mass at the right forearm.

His right ulnar artery pulse was hardly determined when compared with the other forearm. There was pulsation on the mass and a murmur was heard correlated with systolic thrill. Upper extremity arterial and venous colored Doppler ultrasonography (CDUSG) was performed. The size of the aneurysm (22x 30 mm) and progressive pain gave the impression of a threatened rupture (Figure 2).

Figure 2
Figure 2: Doppler ultrasonographic view of pseudoaneurysm.

The ulnar artery proximal to the aneurysm had normal triphasic upper extremity flow pattern. Although the flow rate slowed down distal to the aneurysm, it still preserved the triphasic flow pattern (Figure 3).
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Figure 3
Figure 3: Slower but preserved triphasic flow pattern of the ulnar artery segment distal to the pseudoaneurysm.

Figure 4
Figure 4: No thrombus material could be obtained during proximal and distal embolectomy procedures.

 Venous structures were normal. During an urgent surgical exploration the pseudoaneurysm was found and resected. No material was seen with embolectomy with proximal and distal 3 Fr Fogarty catheters (Figure 4).

Figure 5
Figure 5: Interposition of the autogenous saphenous vein graft.

Initially retrograde flow in artery was observed and because it was not appropriate for primary repair, injured segment was resected with the pseudoaneurysm area (5 cm). Saphenous vein graft’s diameter was adequate for interposition. The injured artery was repaired with it (Figure 5).

After surgical treatment the patient experienced an excellent anatomic and functional recovery. All distal pulses were similar to opposite ones during postoperative period. Microbiological culture results of saccular material were negative and pathological examination showed the pseudoaneurysm. A control CDUSG performed one month after surgery revealed a normal vascular morphology.

DISCUSSION

Ulnar artery pseudoaneurysms are rare lesions that usually occur distal to the wrist and cause symptoms as a result of embolization and rarely rupture[2].

The combination of a large-sized pseudoaneurysm, lack of a history of penetrating trauma and presentation of threatened rupture are unique and reported previously in the study of Filis et al[3].

Clinical examination and color-flow duplex ultrasound(CDUSG) identify the majority of pseudoaneurysms. In addition to diagnosis CDUSG gives detailed information about pseudoaneurysms dimensions,morphology,neck anatomy,flow and relation with adjacent vessels[4]. Open surgical repair must be the standard approach for the symptomatic and rapidly enlarging pseudoaneurysm in order to avoid from embolization,thrombosis and rupture those threatening the function and vitality of the extremity and less invasive methods must be preserved for rare and complicated cases.

References

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Author Information

Ahmet Özelçi
Specialist, Department of Cardiovascular Surgery, İzmir Atatürk Training and Research Hospital

Ufuk Yetkin
Clinical Deputy Chief, Assoc. Prof., Department of Cardiovascular Surgery, İzmir Atatürk Training and Research Hospital

Muhammet Akyüz
Resident, Department of Cardiovascular Surgery, İzmir Atatürk Training and Research Hospital

?smail Yürekli
Specialist, Department of Cardiovascular Surgery, İzmir Atatürk Training and Research Hospital

Ali Gürbüz
Clinic Chief, Assoc. Prof., Department of Cardiovascular Surgery, İzmir Atatürk Training and Research Hospital