SHORT REPORT

True Radial Artery Aneurysm Secondary to Haemangioma—Case Report and Literature Review

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Introduction

Radial artery aneurysms are extremely rare, usually being caused by accidental, malicious or iatrogenic penetrating trauma.1 The incidence of true non-traumatic radial artery aneurysms is small and very few cases have been described. Vascular tumours are also rare, and even more rarely affect the wall of a major vessel.2 We describe a case of a non-traumatic radial artery aneurysm in the wall of which we discovered an hemangiomatous formation very similar to a juvenile type haemangioma. As far as we are aware, such a case does not appear to have been reported before.

Case Report

A right-handed 54-year-old male architect presented with a painless swelling on the anterior-lateral aspect of his left wrist of 15 years’ duration, which had remained stable until 5 months ago, when it had begun to grow in size. There was no history of trauma of any type, or any painful symptoms until 6 months previously when he noticed pain on palpation of the lesion, which radiated to the left shoulder. He had controlled arterial hypertension and hypercholesterolemia, but no other significant past medical or family history.

Examination revealed a well circumscribed, mobile, 3 x 2 cm pulsatile swelling with no bruits. Allen’s test was normal. There were no other problems with the cardiovascular system. There was a mild eosinophilia (0.8 x 10⁹/L). Duplex scanning was inconclusive. MRI scanning suggested this to be an aneurysm of the radial artery.

Fig. 1. Intra-operative view of the left radial artery. At the top there is a saccular aneurysm arising from the radial artery wall. Below is shown the appearance of the artery after aneurysm resection and end-to-end anastomosis.
At operation, a saccular, partially thrombosed aneurysm of the radial artery at the level of the wrist was found and excised. The defect was repaired with direct reconstruction of the remaining artery edges with end-to-end sutures under no tension (Fig. 1). Histopathology showed a malformation in a distorted artery wall with a lack of a well-formed muscular layer and the presence of a lesion very similar to a capillary haemangioma of the juvenile type within the aneurysm sac and inside its lumen (Fig. 2).

The patient made a good recovery with normal radial artery function and was discharged 12 h later. He remains complication-free and with normal hand circulation. A search for another haemangiomata or aneurysms was negative. Three month follow-up was normal.

Discussion

The first description of a true non-traumatic radial artery aneurysm, as far as we know, was made by Thorrens et al. in 1966, and since then only a few publications on the subject have appeared. The present case describes an even rarer condition: a non-traumatic radial artery aneurysm with a vascular tumour within its wall. This presentation has been reported once before in a patient with angiolymphoid hyperplasia affecting the radial artery, which is not truly a neoplastic lesion but is also described as an epithelioid haemangiomia. As we see it, the central question in our case is whether or not the tumour caused the aneurysm. We think it did, as the presence of the tumour could lead to the weakening of the artery wall. Histopathology seems to corroborate this since it shows a lack of a well-formed muscular layer and consequent diminished arterial tone; thus, as the tumour grew, the artery dilated. It is true that there is no other evidence to back up this view at the moment. We know that the actual diagnosis of a capillary haemangioma of the juvenile type is not completely clear from our findings, especially bearing in mind that such lesions are known to occur in infants and children, with a natural history of involution, rather than in an adult. Fortunately, the intermediary and malignant types of vascular tumour are uncommon and most of the times have particular cellular phenotypes (endotheliomas, leiomiossarcomas and pericytomias). By contrast haemangiomas, which are benign formations, are much more frequent, but on very rare occasions will affect a vessel wall. We only found two of these intraluminal presentations in the literature, one in the portal vein and one in the renal artery.

Conclusion

The radial artery is an unusual site for true non-traumatic aneurysms as is a vessel wall location for an hemangiomatous tumour. The association of both is extremely rare. The aim of this article was to report the exceptional characteristics of this case and emphasize the very probable implication of the hemangiomatous process in the pathological etiology of the aneurysm.

References


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