

Case Report

Iatrogenic Isolated Ruptured Dorsalis Pedis Artery Pseudo Aneurysm : A Rare Case Report

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A Dorsalis Pedis Artery (DPA) pseudo aneurysm is one of the most uncommon peripheral arterial aneurysms. These aneurysms can cause distal embolization and thrombosis, leading to limb loss. However, their rupture is unusual¹.

Any type of injury or perhaps an iatrogenic intervention can cause a pseudo localized swelling of the dorsalis pedis artery, which is a relatively unusual condition. Whenever it presents as a non-pulsatile soft tissue mass in the presence or absence of a specific predeceasing event, it can lead to a difficult diagnostic dilemma².

The rare instance of an iatrogenic pseudo aneurysm of the dorsalis pedis artery which mimicked cellulitis of the right foot is discussed in this case report. Coil embolization of the proximal artery, and the aneurysm was successfully done by the intervention radiologist. After the procedure, collateral circulation was maintained.

No ischemic symptoms such as intermittent claudication or pain at rest were observed. This approach may be useful in treating similar cases.

[J Indian Med Assoc 2022; 120(5): 56-7]

Key words : Ruptured dorsalis pedis artery aneurysm, coil embolization, Dorsalis pedis artery, Peripheral artery, Pseudoaneurysm, Surgery.

CASE REPORT

A 72-year-old man presented with a one-month-old swelling on the dorsal aspect of his foot (Right side). (Fig 1).

The agony was increasing as the vague bulge on his right foot grew. After regular physical activity and at the end of the day, the pain would be the worst. There was relief found on elevation. The patient reported suffering from hypo pigmented skin lesions over the anterior aspect of the same ankle joint causing itching over the area, diagnosed as eczema, since last two years, for which he had undergone repeated steroid injection, leading to temporary relief from the skin lesions. He later developed a swelling over the same ankle joint which was later misdiagnosed as cellulitis of the right foot and underwent incision and drainage for the swelling 1 month back. The patient again observed the swelling over the same region following the incision and drainage in a span of 1 week. There was no history of recent trauma or change in lifestyle. Past medical history was insignificant; there was no history of diabetes mellitus, cardiac disease, or peripheral vascular disease.

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Received on : 08/09/2021

Accepted on : 14/01/2022

Editor's Comment :

- Carrying out unnecessary invasive procedures without complete evaluation is not ethical.
- The Imaging studies may not always prove to be helpful in the diagnosis of the disease conditions that we face. Even the experience of the clinician matters.
- A good surgeon is the one who knows when not to operate.
- Multi-disciplinary approach always helps to diagnose a rare or a misdiagnosed case, leading to a better outcome and a feasible solution.
- Ultimate goal in the management is patient safety.

On local examination there was diffuse swelling without local tenderness. All movements at the ankle joint



Fig 1 — Pre-intervention image showing swelling around the right ankle region



Fig 2 — X-ray Right Foot AP and Lateral View revealing soft tissue swelling anteriorly without any bony involvement



Fig 3 — Aspiration of the cystic swelling



Fig 4 — Post coil embolization image of the local site which was suggestive of significant regression in the subcutaneous blood collection in the dorsum of the foot and medial aspect of the ankle.

were normal. A non-pulsatile, non-tender fullness, was present antero medially on his right foot. Dorsalis pedis pulse was present bilaterally with equal volume. Peripheral Neurological examination was normal. Radiograph of right foot demonstrated soft tissue swelling anteriorly without any bony involvement (Fig 2).

With clinical diagnosis of the loculated fluid collection along the anteromedial aspect of the right ankle joint, corroborated by local site ultrasonography, aspiration of the content of the swelling was done (Fig 3).

The aspirate was haemorrhagic to dark brown colored and hence the diagnosis of haematoma was made. As duplex scan of the local site and the affected limb was unremarkable, right lower limb angiography was done to know the cause of the recurrent hematoma formation.

Angiogram was suggestive of ruptured pseudo aneurysm of right dorsalis pedis artery.

Coil embolization with the MWCE-18-14-3-NESTER was done for the ruptured DPA pseudo aneurysm. Following coil embolization, subsequent ultrasonography of the region revealed considerable decline in subcutaneous hematic collection in the dorsal aspect of the foot and medial portion of the ankle³ (Fig 4).

DISCUSSION

The DPA pseudo aneurysms are uncommon. Piercing injury, injection, aspiration or surgical intervention are all possible causes³.

The obvious diagnosis that we reach for a patient who comes with a narrative of trauma and pulsating, painful mass might hardly vary.

On the other hand, soft tissue swellings on the dorsal aspect of the foot, can be difficult to distinguish, since the above mentioned obvious signs were absent. Hence, the differentials in the diagnosis of the condition get broadened and will be including of both benign and malignant conditions³.

This patient presented with a spontaneous swelling over the ankle that was getting worse by the end of the

day and was not associated with any other local abnormalities.

The clinical signs and symptoms, along with the radiological imaging were pointing towards soft tissue cellulitis, which is one of the most commonly affecting diseased state of the foot or the ankle.

The Imaging studies may or may not prove to be helpful in all the disease conditions that we face³. The soft tissue oedema was confirmed by plain radiographs in this case. Had there been clinical suspicions of a vascular lesion, then the vascular sequences would have been performed earlier, hence preventing the unnecessary invasive procedure the patient underwent before. Even in retrospect, we were yet to demonstrate any form of relationship between the swelling and the DPA, despite the fact that Doppler is considered sensitive.

Treatment options for pseudo aneurysms include of repair, or reconstruction or embolization. Since many consider the dorsalis pedis artery to be unnecessary, there are various studies proposing its ligation. Current revelations in small-vessel arterial reconstructive procedures, on the other hand, have made repair or restoration a reasonable choice³ and our belief, that conservation of the vessel is the perfect alternative when possible³.

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