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Case Report

Unilateral Raynaud's phenomenon with splinter haemorrhages in a male patient: A case report

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ABSTRACT

Although Raynaud's phenomenon (RP) and nail splinter haemorrhages are common conditions, their simultaneous occurrence has been uncommonly reported. RP occurs as a consequence of vascular constriction, manifested by a triphasic colour change in distal extremities. Unilateral RP is an uncommon phenomenon, occurring secondary to loco-regional causes. Splinter haemorrhages occur due to the rupture of nail bed dermal capillaries. We describe a 36-year-old male patient who presented with numbness, episodic pain, and bluish discoloration involving the digits of the right hand. On examination, splinter haemorrhages were found. Doppler Ultrasonography showed biphasic colour flow with the possibility of vascular spasm. The patient symptomatically improved with medications including oral and topical vasodilators and analgesics. Splinter haemorrhages also resolved. Raynaud's phenomenon and splinter hemorrhages are separately occurring common conditions with individual underlying causes. It is important to rule out systemic causes of splinter haemorrhages by involving cardiologists in the work up followed by adequate imaging studies.

Keywords: Unilateral Raynaud's phenomenon, Splinter haemorrhage, Nail

INTRODUCTION

Raynaud's phenomenon (RP) is a form of intermittent arteriolar vasoconstriction characterised by episodic digital ischemia. It is manifested by sequential development of digital blanching, cyanosis and rubor of fingers and toes after cold exposure and subsequent rewarming.[1] RP can be primary (idiopathic) or secondary based on whether an underlying cause or disease association can be identified.

Unilateral RP is much less common and is always secondary to local or regional vascular disease. Causes of unilateral RP include thoracic outlet syndrome, carpal tunnel syndrome, arterial ischemia caused by a tumours or cysts, atherosclerosis, vasculitis and arterial damage due to injury or surgery.[1]

Splinter haemorrhages represent the rupture of nail bed dermal capillaries, with extravasation which orients longitudinally due the nail bed ridges. The hallmark presentation is linear discoloration. They were first described in 1923 by Blumer, as 'splinters under the nail' in patients with subacute bacterial endocarditis.[2,3] Most often, they are due to trauma, for example, nail biting and manifest distally in the nail bed.[3] In systemic diseases, for example, bacterial endocarditis, the splinter haemorrhages develop more proximally and occur in multiple nails.[4] RP with splinter haemorrhage is a rare combination of findings reported less often.[5] Underlying causes can be severe vasospasm, microvascular damage, increased blood vessel fragility, and underlying autoimmune or inflammatory disease.

CASE REPORT

A 36-year-old male, working in a mill, presented to a tertiary care hospital with a 15-20 day history of episodic numbness and bluish discoloration of the fingers of the right-hand after exposure to cold water. The patient also noticed red-coloured dots on the nails of the involved hand. There were no similar complaints in the left hand. The patient had a history of working on vibratory machinery in the mill and was right-handed. He was a non-smoker.

On examination an ill-defined diffuse blanchable patchy erythema was present on bilateral palms [Figure 1]. Well-defined, longitudinal splinter haemorrhages were seen in the

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thumb, middle finger, ring finger, and little finger of the right hand [Figure 2]. Onychoscopy [Heine delta-30 dermoscope, ×10 magnification] showed linear thin reddish-brown longitudinal streaks on distal nail beds of the right fingernails [Figure 3]. No similar findings were seen on the left hand. Nail fold capillaroscopy was normal.

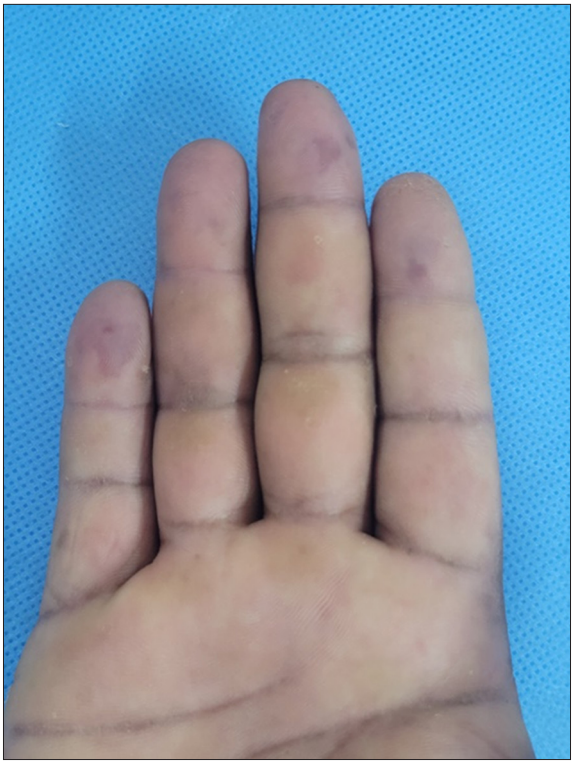

Figure 1: A 36-year-male patient of Raynaud's phenomenon (RP) showing RP in fingertips.

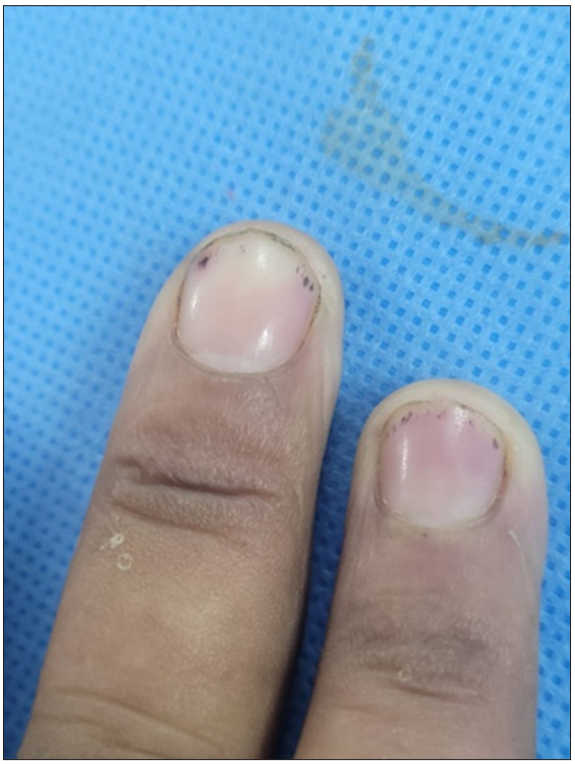

Figure 2: Splinter haemorrhages in nail plate.

Baseline blood indices, including complete haemogram, erythrocyte sedimentation rate, C-reactive protein, lipid profile, liver function test, and renal function tests, were normal. Anti-streptolysin-O and rheumatoid arthritis factor reports were negative. Anti-nuclear antibody (immune-fluorescence) showed normal results at 1:80 dilution. Chest X-ray was normal, without any evidence of cervical rib. Two-dimension echocardiography and multidetector computed tomography angiography of the right upper limb showed normal results. Ultrasonography Doppler showed biphasic flow (possibility of spasm) involving digital arteries in the fingers of the right hand upon warming. No colour flow was seen on exposure to cold, suggesting the possibility of RP.

The patient was treated with Nifedipine (10 mg) twice a day for 20 days, with topical Nitroglycerine ointment 0.2% twice

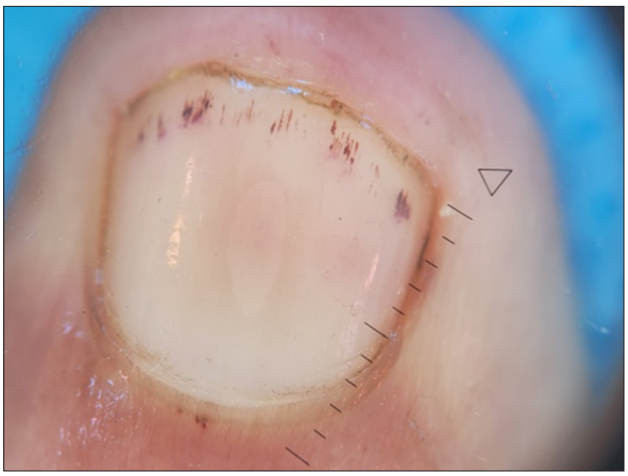

Figure 3: Onychoscopy showing splinter nail hemorrhages [heine delta 30 dermoscope ×10]

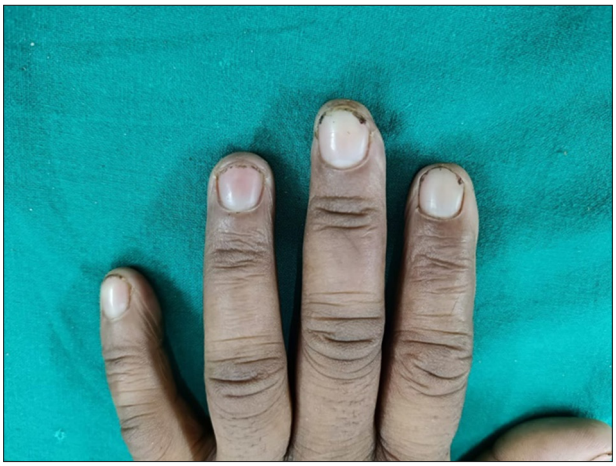

Figure 4: Normal nail plate after treatment.

daily application. On follow-up, both the symptoms and splinter haemorrhages resolved completely [Figure 4]. As the patient responded well to the initial treatment for RP, a wait-and-observe approach was adopted and we advised the patient for regular follow-up, initially monthly, then every 3 months, for at least one year. He was educated regarding the signs and symptoms of recurrence and asked to report.

DISCUSSION

The report describes a patient with RP and splinter haemorrhages, presenting simultaneously. On literature search, we found one study of two non-smoker males with simultaneous association of unilateral RP and splinter hemorrhages. One of these patients had digital artery ischemia, and the other had thoracic outlet obstruction.[5] Another study presented a young male diagnosed with cannabis arteritis showing RP and splinter haemorrhages simultaneously.[6] A single case report of unilateral episodic RP as a presenting feature of multiple sclerosis was reported without any splinter haemorrhages.[7] There are also reports of unilateral RP with ulnar artery thrombosis in hypothenar hammer syndrome.[8] No such underlying cause or syndromic associations were found in our case. We also found a single case report of idiopathic splinter hemorrhages in a young female without any RP, which resolved spontaneously.[9]

CONCLUSION

Though RP and splinter haemorrhages are separately occurring common conditions, their simultaneous presence without any underlying cause, is unusual. It is important to rule out systemic causes of splinter haemorrhages through adequate imaging and inter-disciplinary management. As patients with RP have an increased tendency to be associated with autoimmune connective tissue diseases (AI-CTD), it is important to keep them on regular follow-up.

Authors' contributions: SR identified the case and confirmed the diagnosis. Synthesis and supervision of Manuscript at all stages. AJ and JB were involved in synthesis of differential diagnosis and work up. TJ and BD were involved in manuscript writing.

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