Two Cases of Thrombosis of the Palmar Digital Vein

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Palmar digital vein thrombosis causing one or more nodules seems to be a relatively rare condition, judging by the dearth of reports in the literature. It should always be considered in a patient who presents with a painful, firm, blue nodule located at or in close proximity to one of the flexion crease of the finger. Common lesions presenting as one or more solid digital nodules are ganglions, epidermal inclusion cysts, giant cell tumors, and lipomas. Thrombosis of the palmar digital veins should, however, be part of the differential diagnosis of palmar digital nodules because it is possible to manage it conservatively. We report two cases of thrombosis of palmar digital vein in a 33-year-old woman and a 78-year-old man.

CASE REPORT

A 33-year-old female visited our clinic complaining of an asymptomatic nodule on the proximal interphalangeal (PIP) joint of palmar aspect of right 4th finger. Physical examination was not otherwise remarkable except for the skin lesion. Skin examination revealed solitary slightly bluish papule on the palmar aspect of right 4th finger (Fig. 1). All laboratory examinations on complete blood count, blood coagulation test, routine chemistry and venereal disease research laboratory test were within the normal range or negative. Skin biopsy from the nodule showed a thin vascular wall and a partial thrombus in the dilated vascular space (Fig. 2A). In the high power field, thrombus nodules are ganglions, epidermal inclusion cyst, giant cell tumors, and lipomas.

INTRODUCTION

In 1936, Jadassohn described “thrombosis of the digital vein, manifesting as painful, firm, blue nodule of palmar aspect. The patient is usually female, from a wide spectrum, but most often between 35 and 65 years old.” Common lesions presenting as one or more solid digital nodules are ganglions, epidermal inclusion cyst, giant cell tumors, and lipomas. Thrombosis of palmar digital vein should, however, be part of the differential diagnosis of palmar digital nodules because it is possible to manage it conservatively. Thrombosis of palmar digital vein is very rare, so we report two cases of it in a 33-year-old woman and a 78-year-old man.

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Fig. 2. (A) Thin vascular wall and a partial thrombus in the dilated vascular space (H&E, ×40). (B) Thrombus consisted of aggregated red blood cell in the vascular space (H&E, ×400).

Fig. 3. Localized skin-colored papule on the palmar area of right 4th finger.

consisted of aggregated red blood cell in the vascular space was seen (Fig. 2B). Based on the clinical and histological findings, the patient was diagnosed with thrombosis of palmar digital vein. No evidence of recurrence was seen after excision.

In the second case, a 78-year-old male visited our clinic complaining of a painful nodule on the palmar aspect of right PIP joint of right 4th finger for one year. Medical history included radiation therapy for prostate cancer. Physical examination was unremarkable except for the skin lesion. Skin examination revealed a solitary ill defined skin-colored papule on the palmar area of right 4th finger (Fig. 3). All laboratory examinations are within the normal range and histologic findings from the nodule were same as our first case (Fig. 4). Based on the clinical and histological findings, the patient was diagnosed with thrombosis of palmar digital vein. He has received conservative management such as massaging the lesion, applying hot compresses or compression bandages.

DISCUSSION

Since thrombosis of the digital vein was described by Jadassohn in 1936, a total of 26 cases have been published in English literature. The patients are usually female of any age. Nodules are always located on the palmar side of the digit. The fourth digit is most often affected. The most common location of the nodule on the finger was around the PIP joint, but nodules have also been located over the middle or proximal phalanx or at the level of the distal interphalangeal joint. Hand dominance did not seem to be of importance as both hands were equally affected. Pain, tenderness, erythema and warmth are features suggestive of this diagnosis. The anatomy of the palmar digital venous system includes four functionally different systems: arborized vein, venous arches, and deep and superficial axial veins. Thrombosis seems most likely to occur in the superficial axial veins. Structurally palmar veins are surrounded by a sheath of fine connective tissue and fat cushions. When this supporting structure deteriorates through aging, the veins collapse more easily and thrombosis of the palmar vein occurs more frequently than that of dorsal vein. Furthermore, palmar veins are smaller in diameter than dorsal veins and contain more valves.

Other contributing factors, apart from changes in the vessel wall leading to venous thrombosis, are changes in the blood flow and hypercoagulability of the blood. It has been suggested that intraluminal stasis of blood flow can be caused by flexion of the fingers and possibly by...