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Letter

Subungual hematoma: clinical appearance of resolution over time

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Abstract

Subungual hemorrhage is usually a benign sign, often linked to a traumatic cause. However, it can also reveal a serious and chronic systemic disease. As we will show, subungual hemorrhage may be an indicator of the severity of diabetic microangiopathy. We report a case of subungual hemorrhage in diabetes.

Keywords: isolated subungual hemorrhage, diabetes mellitus, indicator of the severity

Case synopsis

A 54-year-old woman was referred to our department for pigmented nail lesions that appeared on both great toes one month before her visit. She was a housewife and was slightly overweight. She had a habit of wearing sandals even during cold seasons. She didn't report a history of trauma or of wearing tight shoes. There were no changes in her usual medications. She has been followed for diabetes mellitus for 15 years with administration of insulin and metformin for diabetes and a statin for dyslipidemia for 14 years.

Clinical examination revealed a purplish red subungual lesion lateralized to the outer half of the two great toes, which were painful and symmetrical (Figure 1). Peripheral pulses were normal. Dermoscopic examination revealed vacuoles filled with blood (Figure 2). The lesions were clinically suggestive of subungual hemorrhage. Laboratory testing revealed neither thrombocytopenia nor coagulation disorder.



Figure 1. Purple-red subungual lesion, lateralized to the external half of the two great toes—painful and symmetrical

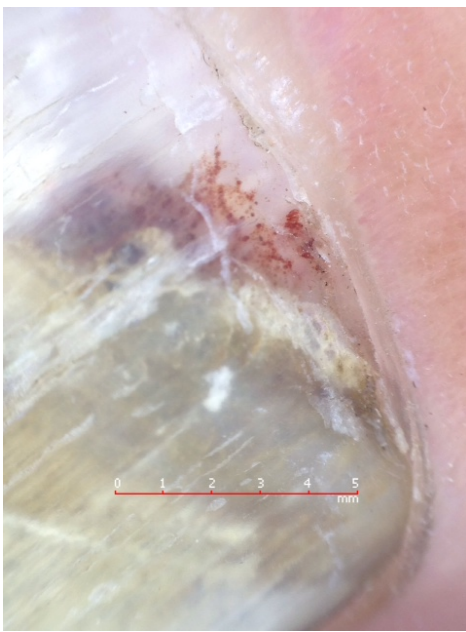


Figure 2. Dermoscopic examination: vacuoles filled of blood. **Figure 3.** Good improvement after one month: spontaneous and progressive resorption of subungual hemorrhage with onycholysis

Urine and blood chemistry values were normal except for a plasma glucose level at 1.90g/dl, Hb A1C at 11.1%, plasma cholesterol level at 2.35g /l, and triglycerides at 4.33g /l. Lower limb Arterial Doppler ultrasound showed normal flow.

Ophthalmologic examination revealed the beginning stages of diabetic retinopathy with retinal hemorrhage. She was treated with analgesics and was sent to an endocrinologist for glycemic control and dyslipidemia. Ophthalmologic monitoring was recommended with laser photocoagulation. Cardiovascular studies were normal. The subungual hemorrhage disappeared progressively after eleven months without recurrence (Figures 3, 4, 5).



Figure 4. After five months: no recurrence of subungual hemorrhage with pachyonychia. **Figure 5.** After eleven months: no recurrence of subungual hemorrhage with regrowth of normal nail

Discussion

In our patient, we believe that the subungual hemorrhage was secondary to diabetic microangiopathy. The most common cause of subungual hemorrhage is the trauma that often involves the distal side of the nail bed [8].

The systemic causes of subungual hemorrhage include: psoriasis and systemic dermatitis; kidney and lung diseases, anti phospholipid syndrome, endocrine diseases including diabetes mellitus. Only 15% of patients with endocarditis can present subungual hemorrhage, which is often proximal [1, 8]. Subungual hemorrhage can be idiopathic [7].

Skin changes are found in about 30% of diabetic patients. Nail changes may occur in diabetics in association with trophic changes or ischemia. These perturbations can lead to profound changes in the nail unit and can produce an irreversible destruction of nail [4, 6].

Nail changes described in diabetes are represented by: paronychia, leukonychia, onycholysis, pachyonychia, Beau lines, onychodystrophy, "yellow nails" (40%), onychogryphosis, periungual telangiectasia, and subungual hemorrhages [3].

Subungual hemorrhage represented an excellent indicator of the severity of the microangiopathy in our patient and the long term level of blood glucose control [5].

The mechanism of the development of diabetic microangiopathy can be explained by capillary basement membrane thickening, nonenzymatic glycosylation of long-life tissue proteins, abnormalities of endothelial cells and platelets, prostaglandin disturbances, and perhaps increased damage induced by free radicals [2].

Subungual hemorrhage in diabetes is related to impairment of the microcirculation of the nail bed. That leads to erythrocyte extravasation from capillaries into the dermal ridges. We also believe that this provoked a poor perfusion of the nail matrix, a slow growth of the nail plate, and curvature of the nail with longitudinal ridges [3].

Three cases of isolated subungual hemorrhages have been published [5]. Subungual hemorrhage was associated with diabetes mellitus in all cases. One case has a similar location as our patient at the two great toes [5].

Conclusion

The association of subungual hemorrhage - diabetes mellitus remains suggestive, but not proven. It is wise to think of screening for diabetes mellitus in patients unexplained bilateral subungual hemorrhage and encourage examination for retinopathy and nephropathy if diabetes is found [5].

LEGEND:

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