Case Report

Leukocytoclastic vasculitis: An uncommon adverse effect of a common drug

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Abstract

A hypertensive elderly male on amlodipine presented with a palpable purpuric rash on both legs followed by shoulder, buttocks, and back with foot ulcer, which was found to be leukocytoclastic vasculitis on skin biopsy. The patient recovered completely on discontinuation of amlodipine and short-term steroid.

Keywords: Amlodipine, leukocytoclastic vasculitis, skin biopsy

Introduction

Amlodipine, a dihydropyridine calcium channel blocker (CCB), is frequently used for the treatment of various cardiovascular disorders. Common side effects of dihydropyridine CCB are headache, ankle edema, tachycardia, hypotension, constipation, and gastro-esophageal reflux. Rare and lethal adverse reactions of this group of drugs are allergic rash, cutaneous hyperpigmentation, and toxic epidermal necrolysis.[1-3]

Case Report

A 62-year-old hypertensive male on amlodipine from past 2 months presented with purpuric rash on both legs, shoulder, buttocks, and back followed by the development of small ulcer on both big toes for 1 month. There was no history of fever, arthralgia, abdominal pain, jaundice, hematuria or bleeding from any site, oral/genital ulcer, or visual complaints. He denied intake of NSAIDS, steroids, any herbal medications, or over-the-counter pills. General physical and systemic examination did not reveal any abnormality. On local examination, there was bilateral palpable purpura and ecchymosis on extensor surface of legs, shoulder, back, and buttocks and non-infected superficial ulcers on both big toes [Figures 1 and 2].

Laboratory examination revealed 13 gm % hemoglobin and total leukocyte count of 13,800/mm^3 with normal differential counts and platelets. The erythrocyte sedimentation rate was 74 mm/1st h. Serum bilirubin was normal, however, serum aspartate amino transferase, serum alanine amino transferase, and serum alkaline phosphatase were 123, 144, and 139 IU/L, respectively. The international normalized ratio was raised (3.2). Serum urea and creatinine were 67 and 1.6 mg/dL, respectively. Infectious serology and antigen testing including those for dengue, malaria, chikungunya, HSV, EBV, CMV, *Salmonella*, HBsAg, anti-HAV, anti-HEV, anti-HCV, and HIV were negative. Blood, urine culture, and throat swab were sterile. Urine routine and microscopy were within normal limits. Mantoux test was negative. C-reactive protein was raised (35 mg/dL), where rheumatoid factor, anti-nuclear antibodies, P-ANCA, and C-ANCA were negative. Chest roentgenogram, ECG, and 2-D echo were within normal limits. Ultrasonography (USG) of the abdomen showed normal study. Skin biopsy showed leukocytoclastic vasculitis (LCV) [Figures 3 and 4].

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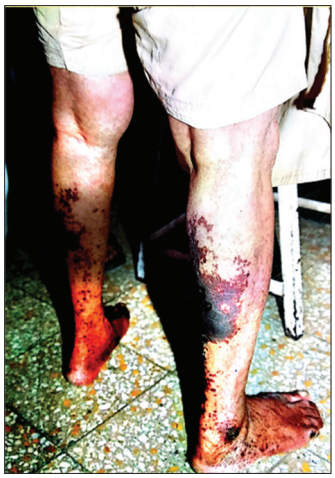

Figure 1: Bilateral palpable purpura and ecchymosis on extensor surface of legs and feet

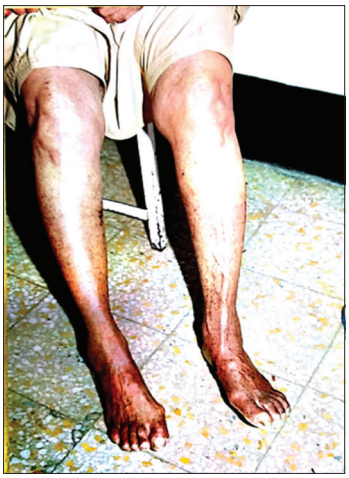

Figure 2: Bilateral palpable purpura and ecchymosis on flexor surface of legs and feet

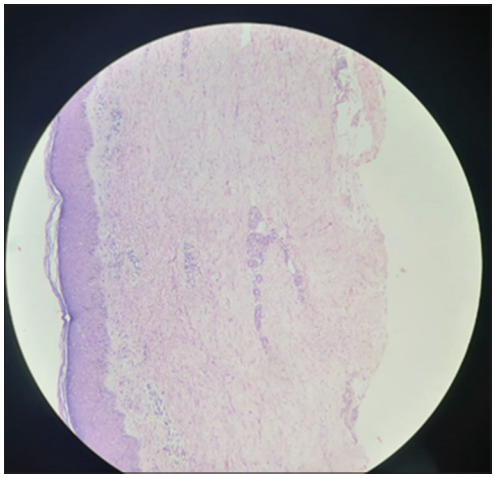

Figure 3: Lined by stratified squamous keratinized epithelium showing orthokeratosis and irregular acanthosis. (hematoxylin-eosin stain, 100X)

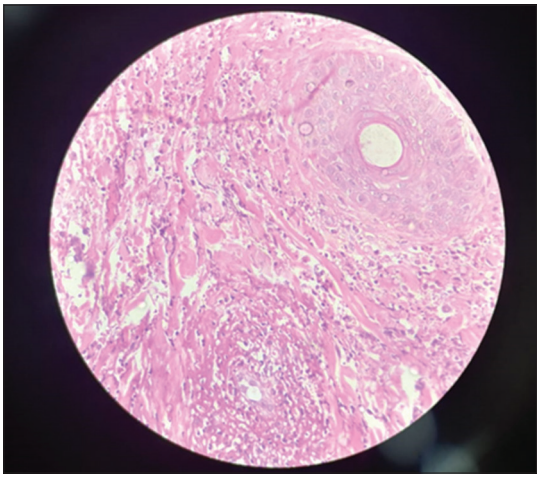

Figure 4: Underlying dermis shows perivascular inflammatory infiltrate comprising of predominantly neutrophils and lymphocytes. (hematoxylin-eosin stain, 400X)

Tablet amlodipine was stopped and the patient was started on systemic steroids and supportive treatment. The rash started to resolve within a week. Repeat liver function and renal function tests were all within normal limits after 1 week. The patient was also prescribed prednisolone 40 mg/day for 10 days followed by rapid tapering. Gradually, purpuric rash disappeared and superficial ulcer healed in 5 weeks.

Discussion

Leukocytoclastic vasculitis is the inflammation of small blood vessel. It is characterized by neutrophilic infiltration in cutaneous superficial postcapillary venules and may be secondary to infections, drugs, collagen tissue disorders, and malignities.[4] Cardinal features of LCV are palpable purpura and violaceous papules, affecting most commonly the lower extremities and less commonly urticarial, vesicular, nodular, and target-like lesions; livedoid pattern and ulcerations are seen clinically.[4] Other manifestations, such as, fever, myalgia, arthralgia, and other symptoms related to internal organ involvement are also seen in patients.[5]

Drug-induced small-vessel vasculitis constitutes about 10%, and most commonly responsible drugs are penicillin, sulphonamides, aminopenicillin, quinolone, allopurinol, thiazides, propylthiouracil, and hydantoin.[6] Leukocytoclastic vasculitis is diagnosed by histopathological evaluation of the biopsy from the lesion, and additional laboratory tests should be performed for systemic involvement and its etiology. Drugs might play a role in the etiology of LCV.[7]

Our patient had no history suggestive of connective tissue disorder or viral prodrome. Because amlodipine was the only recent drug to which he was exposed to, it was thought to be the etiological trigger. In addition, the improvement and resolution of rash after discontinuation of drug supported the diagnosis.

Conclusion

This is a very rare presentation of amlodipine-induced LCV as most common drugs implicated are thiazide, sulfa, penicillamine, gold, and allopurinol. This case is being presented to sensitize

physicians regarding this unique and extremely rare adverse event associated with the use of amlodipine.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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