Case Report

Vesiculopustuloulcerative lesions in erythema nodosum leprosum as initial manifestation of leprosy

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Abstract

Erythema nodosum leprosum presenting as vesiculopustular lesions as initial manifestation of leprosy caused by *Mycobacterium leprae* is of rare occurrence and is very sparsely reported. We present a case of 24-year-old man with complaint of fever, inguinal lymphadenopathy, and vesiculopustular lesions over extremities and trunk. Slit skin smear from lesions showed acid-fast bacilli. Histopathological examination of the skin biopsy revealed granuloma with acid-fast bacilli. Patient was managed conservatively with multidrug therapy along with steroids and thalidomide and improved during hospital stay. Erythema nodosum leprosum expressing as initial manifestation of leprosy in form of vesiculopustular lesions is needed to be enlisted along with the other differential diagnosis presenting similarly.

KEY WORDS: Erythema nodosum leprosum, lymphadenopathy, granuloma

Introduction

This case in consideration has presented as erythema nodosum leprosum manifesting as vesiculopustular eruptions proceeding to generalized gross necrotizing ulcerative lesions, which is a very uncommon occurrence. Skin involvement commonly seen in erythema nodosum leprosum includes nodular, infiltrative, and plaque-like lesions. There are few case reports mentioning bullous skin lesions as one of the uncommon presentation of type-2 lepra reactions. In these reports, patients were known cases of leprosy, and the lesions were not initial manifestations. Owing to a very unique and almost uninformed presentation, we considered this case worth reporting as this patient had never been diagnosed clinically as leprosy patient in the past.

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Case Report

A 24-year-old man patient presented in the Emergency Department with complaints of moderate-grade fever with chills, bilateral painful inguinal lymphadenopathy, and maculopapular rashes progressing to vesiculopustular lesions over all four limbs and trunk for the past 10 days [Figures 1 and 2]. There were no features suggestive of clinical spectrum of leprosy including any skin thickening, nodules, itching, and any loss of sensation. There was no history of any drug intake or any systemic illness in the past. There was no history of abdominal pain.

On arrival, his oral temperature was 38.4°C, pulse rate 104 bpm, respiratory rate 14 breaths/min, and blood pressure (BP) 124/70 mm Hg. General examination revealed multiple bilateral asymmetrically distributed vesiculopustular lesions over both extremities and trunk. Clinical examination could not reveal any mucosal involvement, any anesthetic patch, or madarosis. There were also no features suggestive of neuritis, iridocyclitis, orchitis, arthritis, or any other systemic involvement. No thickening of nerves was present. On systemic examination, cardiovascular, respiratory, abdominal, and neurological systems did not reveal any positive finding.

After first 3 days of hospitalization, patients lesions very rapidly changed to necrotizing ulcerative lesions. These lesions

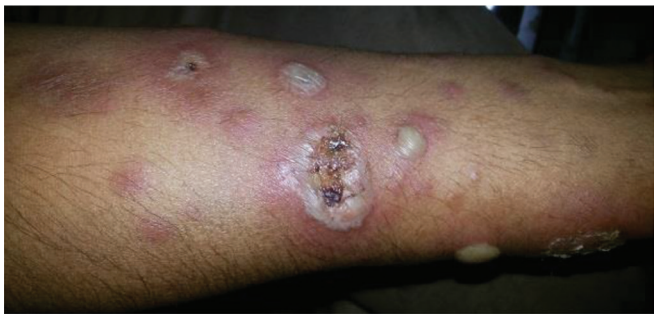

Figure 1: Vesiculopustular lesions over all four limbs and trunk for the past 10 days.

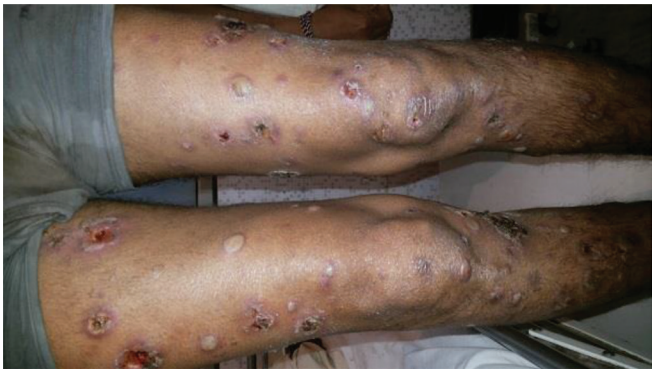

Figure 2: Vesiculopustular lesions over all four limbs and trunk for the past 10 days.

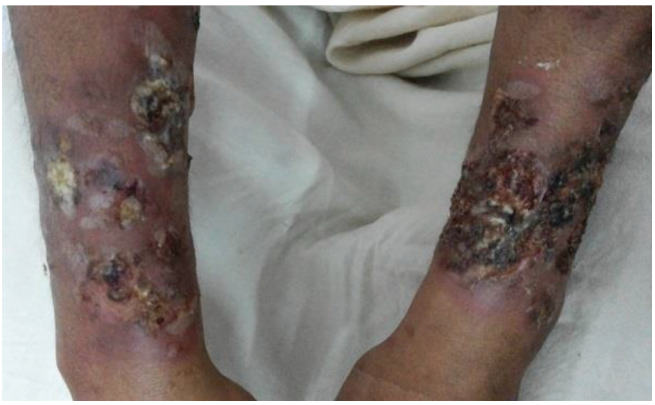

Figure 3: Lesions show irregular margins and were filled with necrotic slough and pus.

revealed irregular margins and were filled with necrotic slough and pus [Figure 3].

Laboratory values revealed white cell count of 6.5 × 10^9/L with 68% polymorphonuclear cells, hemoglobin (Hb) 11.5 mg/dL, hematocrit 40.3%, platelet count 233 × 10^9/L, increased erythrocyte sedimentation rate, prothrombin time 12.3 s, international normalized ratio 1.03, total serum bilirubin 0.5 mg/dL with direct fraction 0.3 mg/dL, serum glutamic

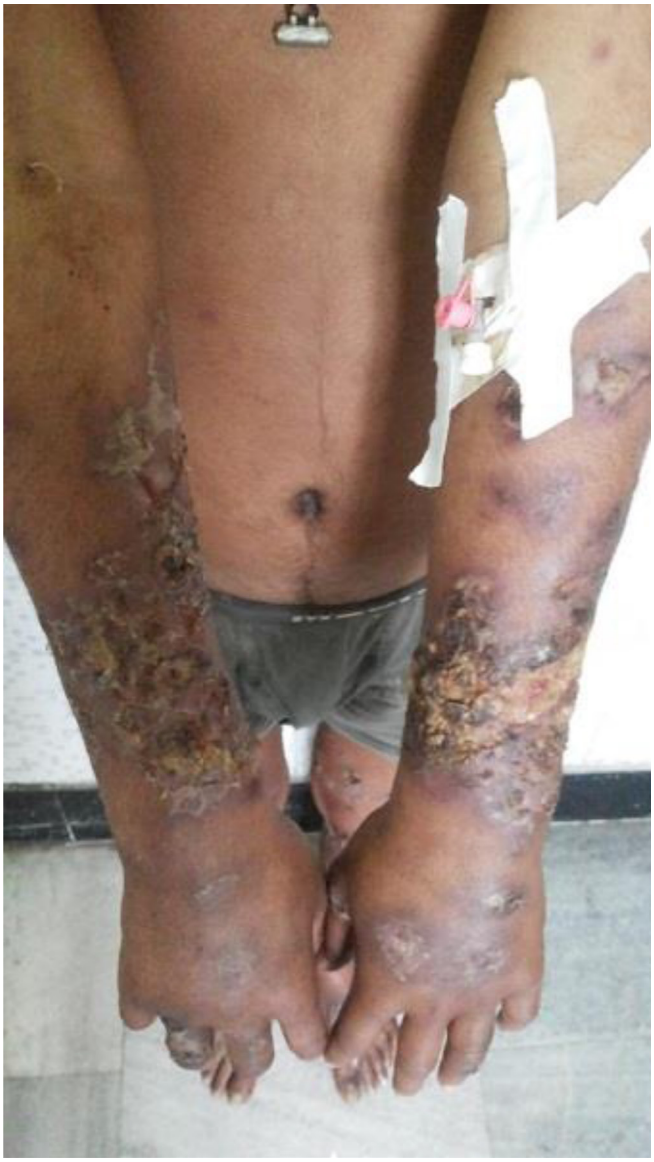

Figure 4: Skin lesions showing healing with crusting of the ulcerative lesions.

oxaloacetic transaminase 36.8 U/L, serum glutamic-pyruvic transaminase 39.4 U/L, random blood sugar 92 mg/dL, and serum albumin 3.5 g/dL. Elisa test for HIV was negative. His blood culture report was sterile. His urine routine and microscopic examination also showed normal findings. A chest X-ray-posterioanterior view showed clear lung fields with normal cardiac silhouette. Slit skin smear examination from six sites (right and left ear lobules, right and left sides of nose, and from any two lesions) revealed positive findings for acid-fast bacilli with bacteriological index of 2.5 and morphological index of 80%. Tzanck smear was negative for any acantholytic cells. Polymerase chain reaction test for herpes simplex virus (HSV)/VZV DNA was also negative. Ophthalmic examination

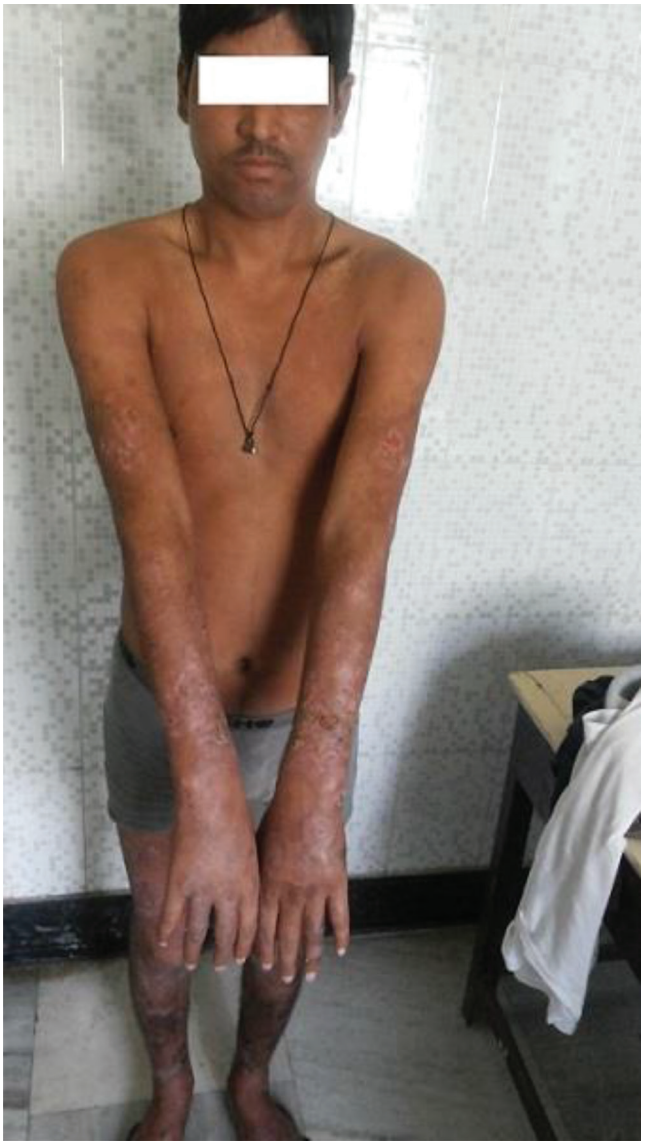

Figure 5: Within 20 days of admission, the scabs of the lesion fell off with scarring of the site of the lesions.

was within normal limit. Venereal Disease Research Laboratory (VDRL) test for syphilis was also negative. Bacteriological culture of the pus aspirated from the lesion was sterile. Nerve conduction study of all four limbs was normal. Histopathological examination of skin biopsy showed hypertrophied stratified squamous epithelium with subepithelial zone consisting dense chronic inflammatory infiltrate and epithelioid cells in fibrocollagenous stroma. Ziehl–Nielsen staining was positive for acid-fast bacilli granuloma. Findings are concluded to be consistent with histopathological spectrum of lepromatous leprosy.

Patient initially was kept on broad-spectrum antibiotics along with maintenance of proper hygiene. Instead of showing improvement, almost all these lesions rapidly changed to necrotizing ulcerative morphology. In the meantime, skin biopsy reported positive for acid-fast bacilli following which immediately multidrug therapy for leprosy comprising of dapsone (100 mg), rifampicin (600 mg stat), and clofazimine (300 mg nightly) along with steroids (40 mg od) and thalidomide (300 mg nightly) was started. Patient improved symptomatically. Fever subsided. By day 12, patient's skin lesions started healing with crusting of the ulcerative lesions [Figure 4]. Within 20 days of admission, the scabs of the lesion fell off with scarring of the site of the lesions [Figure 5]. Patient was discharged on day 22 and was followed up in outpatient department. Within 2 weeks of discharge, the lesions of the patient resolved almost completely with minimal scarring.

Discussion

Lepra reactions are immunologically mediated inflammatory reactions that may hardly lead to the diagnosis and antimicrobial treatment of leprosy. Lepra reactions are of two types: type 1 (reversal reactions) and type 2 (erythema nodosum leprosum). Type 1 lepra reaction is type IV (cell-mediated) hypersensitivity reaction, and type 2 is type III (immune complex-mediated) hypersensitivity reaction. Type 2 reaction is observed in borderline lepromatous and lepromatous leprosy and, usually, presents as crops of erythematous tender nodules and plaques over extremities, trunk, face, and other body parts. There are few case reports mentioning bullous skin reactions in known cases of leprosy patients as one of the uncommon manifestation of type 2 lepra reactions.[1–5] A case report also had mentioned bullous eruptions during treatment with dapsone.[6]

Our case is unique in its rare presentation of erythema nodosum leprosum as vesiculopustular lesions proceeding to gross necrotizing ulcerative lesions. Vesicular lesions can also be seen in chickenpox and HSV infections. Bacterial infections such as *Pseudomonas* and staphylococci can present as vesiculopustular lesions. Herpes infections were ruled out by absence of typical clinical presentation and negative polymerase chain reaction test for HSV/VZV antigen. Bacterial infections were ruled out by sterile pus culture, absence of neutropenia, skin tenderness, and Nikolsky's sign.

Conclusion

So, it can be concluded from the discussion that the erythema nodosum leprosum presenting as vesiculopustuloulcerative lesions as initial manifestation of leprosy, although is very uncommon, can present as acute febrile illness manifesting as erythematous tender nodules and plaques over

extremities, trunk, and other body parts.[7] Uncommon presentations of erythema nodosum leprosum reported so far include bullous and vesiculobullous skin eruptions. As this case suggests, patients of erythema nodosum leprosum can also present with vesiculopustular lesions, which may progress to severe generalized necrotizing ulcerative lesions. These patients respond to multidrug therapy (dapsone, rifampicin, and clofazimine) along with steroids and thalidomide.[8–10]

References

1. Sethuraman G, Jeevan D, Srinivas CR, Ramu G. Bullous erythema nodosum leprosum (bullous type-2 reaction). Int J Dermatol 2002; 41:363–4.
2. Jopling WH. Reactions in leprosy (reactional states). In: *Handbook of Leprosy*. London: William Heimann Medical, 1984. pp. 68–77.
3. Rijal A, Agrawal S, Agarwalla A, Lakhey M. Bullous erythema nodosum leprosum: a case report from Nepal. Lepr Rev 2004; 75:177–80.
4. Kar HK, Raina A, Sharma PK, Bhardwaj M. Annular vesiculobullous eruptions in type 2 reaction in borderline lepromatous leprosy. Indian J Lepr 2009;81:205–8.
5. Periaswamy V, Rao VS. A case report of bullous reaction in leprosy. Indian J Lepr 1985;57:870–1.
6. Dutta RK. Erythema multiforme bullosum due to dapsone. Lepr India 1980;52:306–9.
7. Vashisht D, Das AL. Bullous erythema nodosum leprosum. Med J Armed Forces 2004;75:177–80.
8. Ramu G, Girdhar A Treatment of steroid dependant cases of recurrent lepra reaction with a combination of thalidomide and clofazimine. Lepr India 1979;51(4):497–504.
9. de Carsalade GY, Wallach D, Spindler E, Pennec J, Cottenot F, et al. Daily multidrug therapy for leprosy; results of a fourteen-year experience. Int J Lepr Other Mycobact Dis 1997;65(1):37–44.
10. Manglani PR, Arif MA. Multidrug therapy in leprosy.J Indian Med Assoc 2006;104(12):686–8.

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