VGP-1220 0.5 mm blue pen, M and G Stationery Inc., Shanghai, China) without laser safety glasses. During laser irradiation, the blue gel is easily and totally disappear from the macules’ surface into the air by Q-switched laser microexplosion without increasing superficial cutaneous injury [Figure 1].

The technique can also be used to mark the margin of other pigmented lesions, such as lentigines, Café au lait spot, and nevus of Ota during Q-switched laser treatment.

**REFERENCES**

1. Polder KD, Landau JM, Vergilis-Kalner IJ, Goldberg LH, Friedman PM, Bruce S. Laser eradication of pigmented lesions: A review. Dermatol Surg 2011;37:572-95.
2. Goldberg DJ. Benign pigmented lesions of the skin. Treatment with the Q-switched ruby laser. J Dermatol Surg Oncol 1993;19:376-9.
3. Anderson RR, Parrish JA. Selective photothermolysis: Precise microsurgery by selective absorption of pulsed radiation. Science 1983;220:524-7.

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**Papulonecrotic tuberculid at the site of tuberculin test in a patient with concomitant erythema induratum and papulonecrotic tuberculid**

Sir,

The tuberculids represent a group of disorders resulting from hypersensitive immune reactions within the skin due to hematogenous dissemination of *Mycobacterium tuberculosis* (MTB) (or its antigens) from a primary source, occurring in a patient with strong antituberculous cell-mediated immunity.\(^1\)

The concomitant occurrence of two tuberculids in a patient is rare.\(^2\)

A 36-year-old female presented with multiple painful red lesions on both legs, associated with swelling and pain in both knee joints since 4 months. She also had multiple asymptomatic raised red lesions on both the forearms, dorsum of hands, and back of same duration as lesions on legs. She was not suffering from cough, fever, or weight loss. She had no past history of tuberculosis (TB) or contact with case of TB. She had undergone tuberculin testing 2 days back.

On examination, multiple, tender erythematous nodules measuring 2 × 3 cm in size on both calves and lateral side of legs were seen [Figure 1]. She also had multiple, erythematous to violaceous papules over both the forearms [Figure 2], dorsum of hands, and a few over the back. Examination of tuberculin test site revealed indurated plaque (20 × 18 mm) and multiple erythematous papules at the periphery of the positive tuberculin reaction [Figure 3]. There was no evidence of lymphadenopathy and hepatosplenomegaly, and rest of her systemic examination was unremarkable.

Her routine blood investigations (Hb, complete blood count, liver, and renal function tests) were normal except for markedly raised erythrocyte sedimentation rate (ESR) (110 mm/hr). Chest X-ray and abdominal ultrasonography examination were normal. Her enzyme-linked immunosorbent assay (ELISA) test for HIV was negative.

Biopsy of the tender nodule on the leg revealed lobular...
panniculitis, fat necrosis, granulomatous infiltrate, and vasculitis which were suggestive of erythema induratum (EI) [Figure 4]. Biopsies of the papule on forearm and the papule around the site of tuberculin test revealed similar histopathological appearance, i.e., wedge-shaped area of necrosis involving the dermis, overlying epidermis along, and vasculitis at the base of necrotic dermis. Moderately dense lymphohistiocytic infiltrate was noted in the surrounding dermis. In a single focus, collection of lymphocytes, histiocytes, and epitheliod cells forming a granuloma was seen in the dermis. Polymerase chain reaction (PCR) test (nested amplification technique) of the biopsy taken from the nodule over the leg was positive for 123 base pair sequence which is considered specific for MTB complex.

In view of clinicopathological features, she was started on standard antituberculous regimen consisting of isoniazid, rifampicin, pyrazinamide, and ethambutol. At the end of 1 month, complete disappearance of lesions [Figure 2b] including lesions at the site of tuberculin test was seen [Figure 3b].

The term tuberculid was coined by Darier in 1896.[3] EI, papulonecrotic tuberculid (PNT), and lichen scrofulosorum are generally classified as true tuberculids, i.e., skin manifestations of TB in which no organisms can be demonstrated on acid-fast bacteria (AFB) stain or on culture of the skin lesions.

EI presents as tender, erythematous nodules on the lower legs which have chronic recurrent course and female
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preponderance. The lesions may ulcerate and heal with depressed scars. Histologically, lobular panniculitis with vasculitis and caseation necrosis are seen.

PNT occurs as crops of symmetric, small, erythematous, inflammatory papules which have an acral and extensor surface predilection. Lesions may undergo central ulceration and heal spontaneously within weeks, leaving varioliform scars. Microscopically, wedge-shaped area of necrosis is seen with underlying vasculitis and granulomatous infiltrate.

Though in the lesions of tuberculids, bacilli cannot be demonstrated on AFB stain or culture, tuberculous etiology is suggested by a significantly positive tuberculin test, demonstration of MTB by PCR in the lesions, and prompt resolution of the condition on antituberculous therapy. Failure to demonstrate tubercle bacilli in lesions of tuberculids probably occurs due to presence of only a very few number of bacilli in skin lesions which may be rapidly destroyed by a locally delayed hypersensitivity reaction, or may be killed upon arrival.¹

Advanced investigations like PCR to demonstrate mycobacterial DNA in the lesions of tuberculids have been found helpful to validate this entity and MTB to be the underlying causative agent. The amplified 123-bp sequence is considered specific for M. tuberculosis complex.⁴

Though the techniques like PCR are helpful to prove the role of tuberculous infection, a low detection rate for primary tuberculous foci has been reported at the time of appearance of tuberculids. For PNT, the frequency of locating extracutaneous TB foci varies from 26% to 67% in various series. For EI, the evidence for TB was found in 5 out of 20 cases in one series.⁵ Newer techniques like interferon (IFN) gamma release assays (IGRAs), e.g. Quantiferon-TB gold assay, are useful to diagnose latent tuberculous infections.⁶

A very few cases of simultaneous occurrence of one type of tuberculid with other have been reported in literature. Occurrence of EI with lichen scrofulosorum, lichen scrofulosorum with PNT has been reported. Occurrence of tuberculids with other form of cutaneous or internal focus of MTB infection has been documented. Simultaneous occurrence of EI and PNT has been reported sporadically in literature. Our extensive literature search showed that less than 15 such cases have been reported.² In these case reports, females outnumber the males in a ratio of 4:1. The sites of predilection for both the tuberculids were legs. The general condition of these patients was generally good and constitutional symptoms were absent. It is assumed that simultaneous presence of EI and PNT in a patient may represent a morphological continuum where immune-mediated vasculitis and delayed hypersensitivity reaction occur at different levels leading to appearance of lesions of two different morphologies. Thappa has reported an unusual presentation where transformation from PNT to lichen scrofulosorum occurred in a child.⁵ The occurrence of PNT lesions at the site of tuberculin testing has not been reported earlier. However, popular tuberculid eruptions following Bacillus Calmette Guerin (BCG) vaccination have been reported.⁶

Though TB is very common in developing countries like India, such simultaneous occurrence of PNT and EI has not been reported from India. However, such occurrence in two Indian females has been documented from UK.⁷,⁸

Thus, we report a rare case of concomitant EI and PNT with interesting observation of occurrence of PNT lesions at the site of tuberculin test, which has not been reported earlier. We propose that, in our case, occurrence of lesions of PNT at the site of tuberculin test indicates strong immune reaction against the tuberculin purified protein derivative (PPD) and validates the theory of occurrence of tuberculids as a hypersensitivity reaction to tuberculous antigen.

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REFERENCES

1. Degitz K, Steidl M, Thomas P, Plewig G, Volkendandt M. Aetiology of tuberculids. Lancet 1993;341:239-40.
2. Chuang YH, Kuo TT, Wang CM, Wang CN, Wong WR, Chan HL. Simultaneous occurrence of papulonecrotic tuberculide and erythema induratum and the identification of Mycobacterium
Reticulohistiocytosis belongs to the group of non-Langerhans cell histiocytic disorders, which are characterized by the accumulation of histiocytes that do not represent the phenotype of Langerhans cells. Reticulohistiocytosis is characterized by dermal histiocytic infiltration of large, eosinophilic histiocytes with a “glassy” cytoplasm, and represents a spectrum of rare clinical entities: the solitary cutaneous form; the diffuse-cutaneous type without systemic involvement; and multicentric reticulohistiocytosis.1,2

Here we describe the case of multiple cutaneous lesions of reticulohistiocytoma with a distinct clinical presentation.

A 15-year-old girl presented with asymptomatic lesions that had developed over a period of 5 months on her left upper limb. She had no remarkable personal or family history of diseases and no other related symptoms. During physical examination, multiple erythematous, hyperchromic, and firm nodules varying in size (10–15 mm) were observed on the posterior surface of her left forearm, dorsum of the hand, and thumb along the lines of Blaschko. Furthermore, in the same topography, we noticed small hypochromic, isolated, and grouped papules and hypochromic macules over the nodular lesions [Figures 1 and 2]. Routine laboratory investigations showed no abnormalities. Histopathological examination of three nodules with hypochromic lesions on the overlying skin was performed, and all lesions showed the same features. Hematoxylin-eosin staining showed psoriasiform acanthosis, mild exocytosis of lymphocytes, and isolated keratinocyte necrosis in the epidermis. Focal lymphocytic infiltrate and focal vacuolar degeneration of the basal cell layer were seen at the dermal–epidermal junction. In addition, a dense dermal infiltrate, predominantly composed of large histiocytes and multinucleated giant cells with granular, eosinophilic, and ground-glass cytoplasm, was also noted. These histiocytes were positive for periodic acid-Schiff (PAS)-diastase. No Touton giant cells were present. Interestingly, lymphocytic infiltration of glandular ducts and eccrine glands was also observed [Figure 3]. Immunohistochemical analysis showed that the histiocytes were positive for CD68 and vimentin, but negative for CD1a, factor XIIIa, and S-100 protein. Based on these findings, the diagnosis of reticulohistiocytomas associated with lichen striatus was made. The lesions were clinically stable during the 2-year follow-up period.

Lichen striatus is an uncommon dermatosis with a striking linear distribution. It is most frequent in children.3 Typically, lichen striatus is characterized by the presence of erythematous, lichenoid papules that generally develop along the lines of Blaschko, although hypopigmented macules and/or papules may occur in dark-skinned people.4 Some histopathological findings of lichen striatus include hyperkeratosis, necrotic keratinocytes in the epidermis, mild spongiosis with exocytosis of lymphocytes, and focal or lichenoid lymphocytic infiltrate at the dermal–epidermal junction. Perivascular lymphocytic infiltration may also occur, and there may be involvement of hair follicles and/or eccrine glands.3 Lichenoid epidermal change and a disturbed basal cell layer were found in some cases of solitary reticulohistiocytoma. However, there

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Multiple cutaneous reticulohistiocytomas along the lines of Blaschko associated with lichen striatus

Sir,

Reticulohistiocytosis belongs to the group of non-Langerhans cell histiocytic disorders, which are characterized by the accumulation of histiocytes that do not represent the phenotype of Langerhans cells. Reticulohistiocytosis is characterized by dermal histiocytic infiltration of large, eosinophilic histiocytes with a “glassy” cytoplasm, and represents a spectrum of rare clinical entities: the solitary cutaneous form; the diffuse-cutaneous type without systemic involvement; and multicentric reticulohistiocytosis.1,2

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1. Darier MJ. Des “tuberculides” cutanees. Arch Dermatol Syph 1896;7:1431-6.
2. Eisenach KD, Cave MD, Bates JH, Crawford JT. Polymerase chain reaction amplification of a repetitive DNA sequence specific for Mycobacterium tuberculosis. Br J Dermatol 1997;137:276-81.
3. Darier MJ. Des “tuberculides” cutanees. Arch Dermatol Syph 1896;7:1431-6.
4. Eisenach KD, Cave MD, Bates JH, Crawford JT. Polymerase chain reaction amplification of a repetitive DNA sequence specific for Mycobacterium tuberculosis. J Infect Dis 1990;161:977-81.
5. Thappa DM, Karthikeyan K, Jayanthi S. Tuberculid in a child: Transformation from papulonecrotic to lichen scrofulosorum. Pediatr Dermatol 2003;20:91-3.
6. Muto J, Kuroda K, Tajima S. Papulartuberculides post-BCG vaccination: Case report and review of the literature in Japan. Clin Exp Dermatol 2006;31:611-2.
7. Milligan A, Chen K, Graham-Brown RA. Two tuberculides in one patient–a case report of papulonecrotic tuberculide and erythema induratum occurring together. Clin Exp Dermatol 1990;15:21-3.
8. Roblin D, Kelly R, Wansbrough-Jones M, Harwood C. Papulonecrotic tuberculide and erythema induratum as presenting manifestations of tuberculosis. J Infect 1994;28:193-7.
