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CORRESPONDENCE

Haemorrhagic Bulla: A Rare Presentation of Acute Lymphoblastic Leukemia

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Dear editor,

Bulla is defined as a fluid-filled blister on skin measuring five millimeters or more. Common causes are infection (*Vibrio* sp, *Streptococcal* sp), trauma, drugs, burns, porphyria, allergy (contact dermatitis), bullous pemphigoid and malignancy [1, 2]. The color of the bulla depends on the etiology, e.g., infection-related bullae can be white, yellow or red, while traumatic bullae are usually red (hemorrhagic).

A 50-year-old previously healthy lady presented with a generalized weakness for 2 months and red colored blisters over left forearm for 1 week. There was no history of fever, trauma, itching, and exposure to the extreme of climate or drug intake. She had no history of such lesions in the past. Clinical examination showed a sick looking patient with multiple, well defined, non-tender, cherry-red colored, tense, bullous eruptions over both upper limbs and trunk on the otherwise healthy skin (Fig. 1a). Oral and conjunctival mucosa was normal. She also had pallor and splenomegaly. Investigation showed; hemoglobin 66 g/L, Platelet 17 × 109/L and WBC 40 × 109/L with 88% immature cells on the peripheral blood smear. Her bone marrow showed 90% blasts, which were myeloperoxidase negative and CD19, CD20, CD22, and TdT positive, confirming the diagnosis of pre-B acute lymphoblastic leukemia. A biopsy from the edge of the bulla did not show any infiltration by malignant cells. Blood culture and wound swab (including Tzanck smear) were sterile. She was put on the pre-phase steroid (prednisolone @60 mg/m^2) along with supportive care (allopurinol, hydration, PRBC, and SDAP). On day-7 of steroid, the bullous lesions subsided (Fig. 1b). Her chemotherapy was continued as per modified-BFM protocol.

Hemorrhagic bulla has been reported at the presentation in cases of hematological malignancy. Among patients with hematological malignancies, who are usually

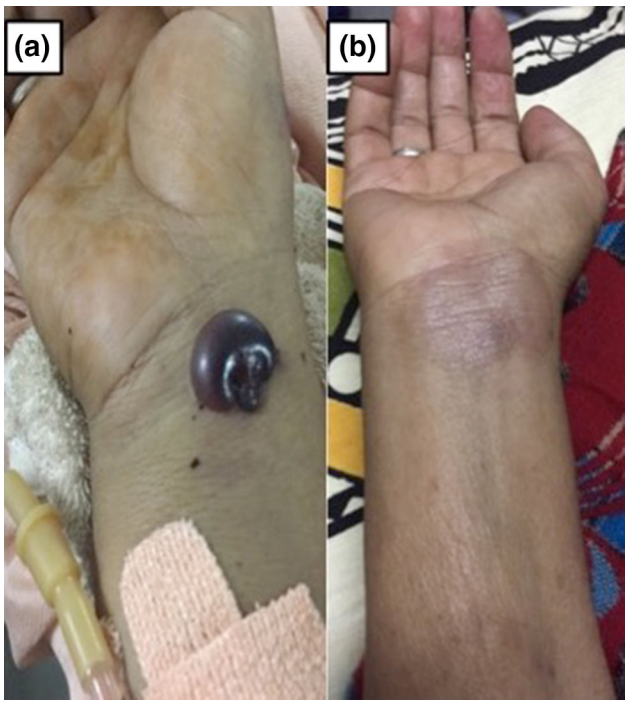

Fig. 1 **a** Clinical photograph showing well defined, cherry-red colored, tense, bullous eruptions (hemorrhagic bullae) over forearm at presentation. **b** Receding hemorrhagic bullae after 01 week of oral prednisolone

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neutropenic, it usually results from skin infection like impetigo and Ecthyma [3–5]. However, rarely it can be due to leukemic infiltration (leukemia cutis) [6, 7]. In the index case, there was no evidence of infection or leukemic infiltration and the patient improved with steroid and platelet transfusion. We propose thrombocytopenia as the underlying mechanism, which probably caused hemorrhagic bullae in the index case. Hemorrhagic bullae can be considered as the counterpart of wet purpura (often seen in patients with life-threatening thrombocytopenia) over mucosa [8]. We conclude that any case of hemorrhagic bullae of skin should be thoroughly evaluated if no other apparent cause is found on initial evaluation because the treatment, as well as the outcome, depends on the underlying etiology.

Compliance with Ethical Standards

Conflict of interest There is no conflict of interest between the authors.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Human and Animals Rights No animals were involved in the study.

Informed Consent Informed signed written consent was taken from the patient involved.

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