Dermatology Practical & Conceptual

High-Resolution Imaging of Bullous and Hemorrhagic Lichen Sclerosus Using LC-OCT

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Citation: Cappilli S, Perri MT, Carbone V, Di Stefani A. High-Resolution Imaging of Bullous and Hemorrhagic Lichen Sclerosus Using LC-OCT. *Dermatol Pract Concept*. 2025;15(3):5397. DOI: https://doi.org/10.5826/dpc.1503a5397

Accepted: April 23, 2025; **Published:** July 2025

Funding: None.

Competing Interests: None.

Authorship: All authors have contributed significantly to this publication.

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Case Presentation

We report a 32-year-old female with a recent enlargement of a worrisome macule on the vulva. At physical exam we observed an ill-defined violaceous, hemorrhagic plaque on the right labia minora, showing a multicomponent pattern in dermoscopy, with a blue-whitish structureless area over a reddish background (Figure 1, A and B). The lesion was evaluated by line-field confocal optical coherence tomography (LC-OCT), revealing subepidermal large dark spaces and clusters of bright cells in the dermis (Figure 1C). Histopathology was diagnostic of bullous and hemorrhagic lichen sclerosus (LS) for the presence of subepidermal cleft, partial homogenization of the underlying dermal collagen, and a lichenoid lymphocytic infiltrate (Figure 1D). The patient was started on topical therapy with a high-potency steroid (clobetasol propionate) once daily for two months, obtaining a satisfactory result with clinical complete resolution and residual scar-like areas in dermoscopy and LC-OCT.

Teaching Point

Bullous and hemorrhagic variant of LS presents with flaccid hemorrhagic bullae that commonly occur in the extra-genital areas (trunk, proximal limbs) [1]. As herein the differential diagnosis included melanoma, an LC-OCT (LC-OCT, DAMAE Medical, Paris, France), a newly introduced imaging device, was applied to better investigate the lesion. Technically, the device can acquire bi-dimensional (vertical/horizontal) videos/images, and 3D cubes/slices up to superficial/mid-dermis [2]. Its application significantly raised the suspicion of this disease, detecting key clues with an impressive similarity to histopathology. Hence, for a fast, noninvasive approach of mucosal areas, it may have a valuable diagnostic role and may be easily repeated over time, limiting surgical procedures.

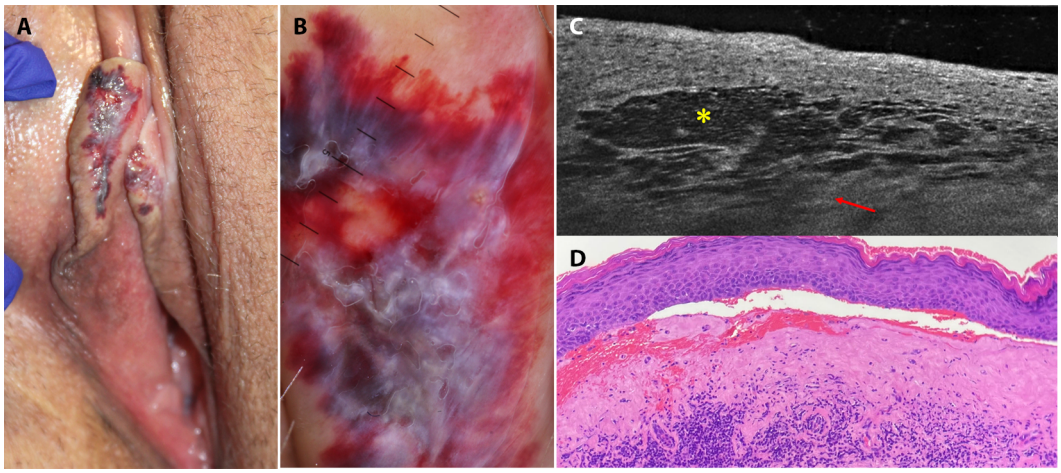

Figure 1. Clinical, dermoscopy, LC-OCT, and histopathology of bullous haemorrhagic lichen sclerosus of the vulva. (A) Poor-demarcated violaceous plaque with marginal erosions, (B) showing dermoscopic blue-white structures on a red background; (C) vertical LC-OCT revealing subepidermal vesiculation (yellow asterisk) and clusters of inflammatory cells in the dermis (red arrow), (D) with a perfect correspondence to histopathology.

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