Ulcerating Lichen Planopilaris – Successful Treatment by Surgery

Uwe Wollina1, Birgit Heinig2, André Koch3, Andreas Nowak4, Georgi Tchernev5,6, Katleen França7, Torello Lotti8

1Städtisches Klinikum Dresden - Department of Dermatology and Allergology, Dresden, Sachsen, Germany; 2Städtisches Klinikum Dresden - Center of Physical and Rehabilitative Medicine, Dresden, Germany; 3Städtisches Klinikum Dresden - Department of Dermatology and Allergology, Dresden, Germany; 4Teaching Hospital Dresden-Friedrichstadt, Dresden, Germany - Department of Anesthesiology & Intensive Care Medicine, Emergency Medicine & Pain Management, Dresden, Germany; 5Department of Dermatology, Venereology and Dermatologic Surgery, Medical Institute of Ministry of Interior, Sofia, Bulgaria; 6Onkodera, Policlinic for Dermatology and Dermatologic Surgery, Sofia, Bulgaria; 7Department of Dermatology and Cutaneous Surgery, Department of Psychiatry & Behavioral Sciences; Institute for Bioethics and Health Policy, University of Miami Miller School of Medicine, Miami, FL, USA; 8University of Rome G. Marconi, Institute of Dermatology, Rome 00186, Italy

Abstract

Lichen planus is a T-cell mediated autoimmune disorder affecting the skin and mucous membranes. Ulcerating lichen planus is uncommon mostly on oral and genital mucosa but not skin. Lichen planopilaris, however, is a subtype of lichen planus affection hair follicles and leading to permanent scarring alopecia. We report a case of lichen planopilaris of the scalp with multiple alopecic patches ulceration – a hitherto unreported clinical feature. The patient was treated surgically, and the defect could be closed by combined tissue advancement and extension.

Introduction

Scarring alopecia is an end stage of various underlying pathologies such as trauma, chronic inflammation, deep follicular infection, collagen vascular disorders and lichen planopilaris (LPP) [1][2]. In 1994, Kossard described the peculiarities of frontal fibrosis alopecia of women with similar histopathology as LPP but with the limitation to the frontal hair line. LPP, in contrast, has multifocal areas of involvement [3][4].

We describe the very unusual presentation of a postmenopausal female with ulcerating LPP of the scalp and the successful surgical treatment.

Case report

A 56-year old postmenopausal female patient with progressive scarring alopecia caused by LPP for more than five years was referred to our department because of chronic ulceration of the capillitium.

On examination, we observed large alopecia lesion (about 10 cm in diameter on the capillitium) with a fronto-parietal localised 1.5 x 1.5 large ulcer covered by a scab. There was some putrid secretion. We took a swab for microbiology demonstrating large amounts of Staphylococcus aureus. After removal of the scab, a scalp ulcer with sharp borders became visible (Fig. 1).
Routine laboratory disclosed a C-reactive protein of 9.51 mg/L (normal range < 5 mg/L).

Histopathology demonstrated a skin ulcer centrally with chronic polypoid granulating inflammation. In the periphery, a stronger fibroblastic inflammation was noted. In the surrounding skin, there was perifollicular fibrosis and lichenoid lymphocytic inflammation in the isthmus and infundibular areas of the follicles leading to their destruction. Elastic fibres were almost completely missing.

**Discussion**

LPP is a follicular variant of lichen planus. It is characterized lichenoid lymphocytic infiltrates, perifollicular fibrosis and destruction of hair follicles. Apoptotic cells are found in the outer root sheath. Common findings are scarring alopecia, scalp dysesthesia, erythema, and perifollicular hyperkeratosis. The disease has a female preponderance and a peak in the forth to the sixth decade of life [5][6][7].

LPP can be subdivided into the following variants: classic LPP, frontal fibrosing alopecia of Kossard, and Graham-Little syndrome. The latter, also known as Lasseur-Picardi-Graham-Little syndrome, is characterised by GLPS is an unusual variant of LPP characterized by multifocal scarring alopecia of the scalp, non-scarring alopecia of the axillae, and/or pubis and follicular lichen planus (LP) involving the trunk and extremities [8].

Treatment is usually a medical one with topical or intralesional corticosteroids, topical calcineurin inhibitors, systemic hydroxychloroquine and cyclosporine A [9][10][11].

While LPP is not known for ulcerations, lichen planus ulcerations may be uncommon but represent a very severe subtype of the disease. Oral lichen planus is often ulcerative [12]. Treatment of ulcerative plantar lichen planus needs systemic immunosuppression and often surgery [13][14].

The scalp ulcer in our patient was at least clinically comparable to squamous cell carcinoma. In long-standing LPP of the scalp, SCC has occasionally been observed [15].

Treatment of choice was complete surgical excision and defect closure by tissue advancement and extension [16].

**References**

1. Tan E, Martinka M, Bail N, Shapiro J. Primary cicatricial alopecias: clinicopathology of 112 cases. J Am Acad Dermatol. 2004; 50(1):25-32. https://doi.org/10.1016/j.jaad.2003.04.001 PMid:14699361
2. Siah TW, Shapiro J. Scarring alopecias: a trichologic emergency. Semin Cutan Med Surg. 2015; 34(2):76-80. [https://doi.org/10.12788/j.sder.2015.0130 PMid:26176284]

3. Kossard S. Postmenopausal frontal fibrosing alopecia. Scarring alopecia in a pattern distribution. Arch Dermatol. 1994; 130(6):770-4. [https://doi.org/10.1001/archderm.1994.01690060100013 PMid:8002649]

4. Cerqueira ER, Valente N, Sotto MN, Romiti R. Comparative analysis of immunopathological features of lichen planopilaris and female patients with frontal fibrosing alopecia. Int J Trichology. 2016; 8(4):197-202. [https://doi.org/10.4103/0974-7753.203179 PMid:28442882 PMCid:PMC5387886]

5. Baibergenova A, Donovan J. Lichen planopilaris: update on pathogenesis and treatment. Skinmed. 2013; 11(3):161-5. PMid:23930355

6. Meinhard J, Stroux A, Lünnemann L, Vogt A, Blume-Peytavi U. Lichen planopilaris: Epidemiology and prevalence of subtypes - a retrospective analysis in 104 patients. J Dtsch Dermatol Ges. 2014; 12(3):229-35, 229-36.

7. Soares VC, Mulinari-Brenner F, Souza TE. Lichen planopilaris epidemiology: a retrospective study of 80 cases. An Bras Dermatol. 2015; 90(5):666-70. [https://doi.org/10.1590/abd1806-4841.20153923 PMid:26560212 PMCid:PMC4631232]

8. Assouly P, Reygagne P. Lichen planopilaris: update on diagnosis and treatment. Semin Cutan Med Surg. 2009; 28(1):3-10. [https://doi.org/10.1016/j.sder.2008.12.006 PMid:19341936]

9. Conrotto D, Carbone M, Carrozza M, Arduino P, Broccoletti R, Pentenero M, Gandolfo S. Ciclosporin vs. clobetasol in the topical management of atrophic and erosive oral lichen planus: a double-blind, randomized controlled trial. Br J Dermatol. 2006; 154(1):139-45. [https://doi.org/10.1111/j.1365-2133.2005.08920.x PMid:16403107]

10. Lajevardi V, Ghodsi SZ, Goodarzi A, Hejazi P, Azizpour A, Beygi S. Comparison of systemic mycophenolate mofetil with topical clobetasol in lichen planopilaris: a parallel-group, assessor-and analyst-blinded, randomized controlled trial. Am J Clin Dermatol. 2015; 16(4):303-11. [https://doi.org/10.1007/s40257-015-0122-z PMid:25780714]

11. Fertig R, Tosti A. Frontal fibrosing alopecia treatment options. Intractable Rare Dis Res. 2016; 5(4):314-5. [https://doi.org/10.5582/irdr.2016.01065 PMid:27904832 PMCid:PMC5116872]

12. Weston G, Payette M. Update on lichen planus and its clinical variants. Int J Women's Dermatol. 2015; 1(3):140-9. [https://doi.org/10.1016/j.ijwd.2015.04.001 PMid:28491978 PMCid:PMC5418875]

13. Wollina U, Konrad H, Graefe T. Ulcerative lichen planus: a case responding to recombinant platelet-derived growth factor BB and immunosuppression. Acta Derm Venereol. 2001; 81(5):364-5. [https://doi.org/10.1080/000155501317140115 PMid:11800147]

14. Goucha S, Khaled A, Bennani Z, Rammeh S, Zegaoui F, Zermani R, Fazaa B. Erosive lichen planus of the soles: Effective response to prednisone. Dermatol Ther (Heidelb). 2011; 1(1):20-4. [https://doi.org/10.1007/s13555-011-0005-z PMid:22984660 PMCid:PMC3437639]

15. Garrido Colmenero C, Martín Castro A, Valenzuela Salas I, Martinez Garcia E, Blasco Morente G, Tercedor Sánchez J. Squamous cell carcinoma in lichen planopilaris. J Dermatol Case Rep. 2013; 7(3):84-7. [https://doi.org/10.3315/jdcr.2013.1147 PMid:24133652 PMCid:PMC3797015]

16. Wollina U, Bayyoud Y, Krönert C, Nowak A. Giant epithelial malignancies (Basal cell carcinoma, squamous cell carcinoma): a series of 20 tumors from a single center. J Cutan Aesthet Surg. 2012; 5(1):12-9. [https://doi.org/10.4103/0974-2077.94328 PMid:22557850 PMCid:PMC339122]