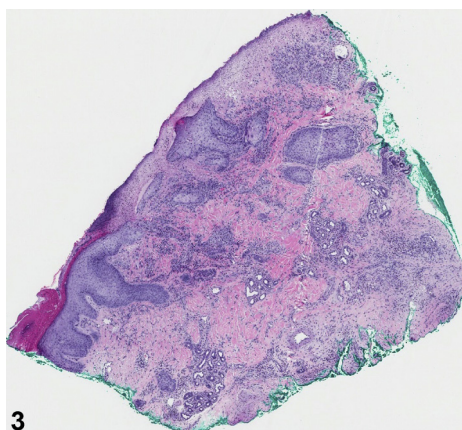


Ulcerated forehead nodule in an intravenous heroin user



Daniel I. Schlessinger, BA,^a Jayla Gray, MD,^b Jodi Speiser, MD,^c and Eden Lake, MD^b
Chicago and Maywood, Illinois



From the Department of Dermatology, Feinberg School of Medicine, Northwestern University^a and the Division of Dermatology^b and Department of Pathology,^c Loyola University Chicago, Maywood.

Funding sources: None.

Conflicts of interest: None disclosed.

Correspondence to: Daniel Schlessinger, BA, Department of Dermatology, 676 N. St Clair St, Ste 1600, Chicago, IL 60611.
E-mail: schlessinger.daniel@gmail.com.

JAAD Case Reports 2019;5:63-5.
2352-5126

© 2018 by the American Academy of Dermatology, Inc. Published by Elsevier, Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

<https://doi.org/10.1016/j.jidcr.2018.10.008>

A 31-year-old daily intravenous heroin user, cat owner, and self-described *skin picker* presented with 1-month history of a nontender, ulcerated forehead nodule unimproved with multiple oral antibiotics. She denied cat scratches, fever, or systemic symptoms. She endorsed recent at-home incision and drainage of the nodule. On physical examination, the forehead contained an exophytic, edematous, erythematous, ulcerated, friable nodule with a central incision, well-circumscribed collarette of normal skin, and faintly violaceous edges (Fig 1). Extremities contained scattered, hyperpigmented, atrophic scars (Fig 2). HIV antigen, urine pregnancy screen, and tissue culture results were negative. Punch biopsy results of the forehead lesion are shown (Fig 3/A high-resolution version of the image is available as eSlide:Identifier#VM05383).

Question 1: What is the most likely diagnosis?

- A. Bacillary angiomatosis
- B. Pyogenic granuloma
- C. Picker's nodule
- D. Poroma
- E. Pyoderma gangrenosum

Answers:

A. Bacillary angiomatosis – Incorrect. Although bacillary angiomatosis, a manifestation of *Bartonella* spp., is more frequent among cat owners and can present similarly to that of our patient's ulcerated lesion, it usually occurs with underlying HIV infection. Our patient was negative for HIV, and histologic stains and tissue culture for bacterial, fungal, and acid-fast organisms were all negative.

B. Pyogenic granuloma – Incorrect. This is an often rapidly growing vascular tumor of skin or mucosa, which can be associated with pregnancy. Our patient's urine pregnancy test was negative, and histopathology did not reveal lobular capillary hemangioma with lobules separated by connective tissue septae.

C. Poroma – Incorrect. This benign sweat gland neoplasm can also present as an ulcerated nodule. However, it most often occurs on palms and soles, and histopathology shows a circumscribed endophytic proliferation of monomorphic poroid cells with variably sized sweat ducts and a highly vascularized stroma.

D. Picker's nodule – Correct. Neurotic excoriations are morphologically diverse, although they are often linear, clean at the wound base, and contralateral to the handedness of the affected individual.¹ Commonly affected areas include the face, upper arms, and upper back, and evidence of prior excoriations is often visible as numerous, round or linear, hyperpigmented scars. In severe cases, neurotic excoriations may cause picker's or prurigo

nodules, as seen in this patient. In our patient, histopathology found central cutaneous ulceration with underlying granulation tissue, fibrosis, and mixed inflammation with neutrophils. The adjacent nonulcerated areas showed acanthosis of the epidermis and adnexa. Overall, the histopathologic changes and clinical correlation were consistent with an ulcerated prurigo.

E. Pyoderma gangrenosum – Incorrect. Although this condition can present with rapidly ulcerating plaques and nodules, it usually affects the trunk and lower extremities of patients with underlying inflammatory bowel disease. Histopathology in advanced lesions shows suppurative inflammation in the dermis and subcutaneous fat.

Question 2: What is the underlying trigger associated with this phenomenon?

- A. Infection
- B. Unintentional trauma
- C. Substance abuse
- D. Benign neoplastic proliferation
- E. Immunologic reaction

Answers:

A. Infection – Incorrect. This would be the pathophysiologic explanation for bacillary angiomatosis, which is not seen in this case.

B. Unintentional trauma – Incorrect. Although trauma is sometimes linked to the development of pyogenic granuloma, there was no history of unintentional trauma to this site.

C. Substance abuse – Correct. Neurotic excoriation, also known as *excoriation disorder* (ED), *skin picking disorder*, *psychogenic excoriation*, or *dermatillomania*, is characterized by repetitive and compulsive picking of skin, leading to tissue damage. In this case, skin picking was related to underlying substance abuse of intravenous heroin.

D. Benign neoplastic proliferation — Incorrect. This would be the pathophysiologic explanation for poroma or other benign tumors, which was not seen in this case.

E. Immunologic reaction — Incorrect. This would be the pathophysiologic explanation for pyoderma gangrenosum, which was not seen in this patient.

Question 3: Which of the following is NOT an acceptable treatment for this condition?

- A.** Habit reversal therapy
- B.** Prednisone
- C.** Opioid antagonists
- D.** N-acetyl cysteine
- E.** Topical timolol

Answers:

A. Habit reversal therapy — Incorrect. Treatment of ED often requires a multimodal approach of both pharmacologic and behavioral interventions such as habit reversal therapy.

B. Prednisone — Correct. Other pharmacologic therapies that have shown success in the treatment of ED include selective serotonin reuptake inhibitors, benzodiazepines, opioid antagonists, lamotrigine, and inositol.² Prednisone has not been identified as a therapy for ED.

C. Opioid antagonists — Incorrect. In this patient, substance abuse was addressed with a daily opioid replacement program (buprenorphine/naloxone 24 mg/6 mg).

D. N-acetyl cysteine (NAC) — Incorrect. Recently, NAC has been investigated as a therapy for ED.³ As

a glutamatergic modulator, it may help to treat diseases that involve reward-seeking behaviors through glutamate signaling, such as substance abuse disorders and skin picking. In a randomized controlled study of 66 adults with ED, NAC (1200-3000 mg/d) resulted in significant improvements in symptoms compared with placebo over 12 weeks.³ Our patient was prescribed oral NAC, 600 mg twice daily, as part of her treatment plan with significant improvement at 1-month follow-up.

E. Topical timolol — Incorrect. Our patient was prescribed timolol 0.5% drops to the forehead lesion. Timolol was added because of the excessive granulation tissue on histopathology. Research on topical timolol as a therapy for chronic, recalcitrant wounds via a proposed mechanism of increased keratinocyte migration is promising in several recent case reports.^{4,5}

Abbreviations used:

ED: excoriation disorder

NAC: N-acetyl cysteine

REFERENCES

1. Misery L, Chastaing M, Touboul S, et al. Psychogenic skin excoriations: diagnostic criteria, semiological analysis and psychiatric profiles. *Acta Dermato-Venereologica*. 2012;92(4):416-418.
2. Lochner C, Roos A, Stein DJ. Excoriation (skin-picking) disorder: a systematic review of treatment options. *Neuropsych Dis Treat*. 2017;13:1867-1872.
3. Grant JE, Chamberlain SR, Redden SA, Leppink EW, Odlaug BL, Kim SW. N-Acetylcysteine in the treatment of excoriation disorder: a randomized clinical trial. *JAMA Psychiatry*. 2016;73(5):490-496.
4. Beroukhi K, Rotunda AM. Topical 0.5% timolol heals a recalcitrant irradiated surgical scalp wound. *Dermatol Surg*. 2014;40(8):924-926.
5. Tang JC, Dosal J, Kirsner RS. Topical timolol for a refractory wound. *Dermatol Surg*. 2012;38(1):135-138.