In conclusion, we determined the feasibility for teleconsultations using cellular phones in a clinical pilot study based on store-and-forward systems via a specific web application that was designed for teledermatology. Certainly, the use of cellular phones for telemedical consultations in dermatology is currently in its early stages. Based on our preliminary data, mobile teledermatology might have an evolutional potential for future applications in clinical dermatology, with benefits for individuals with skin conditions.

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Lidocaine Patch for Pain of Erythromelalgia: Follow-up of 34 Patients

We have found that a 5% lidocaine patch (Lidoderm; Endo Pharmaceuticals Inc, Chadds Ford, Pa) is helpful as both first-line and adjunctive treatment for managing the pain of erythromelalgia. (Lidoderm is manufactured by Teikoku Seiyaku Co Ltd, Sanbonmatsu, Kagawa, Japan, for Endo Pharmaceuticals and is a registered trademark of Hind Health Care, Inc, San Jose, Calif.) This form of topical lidocaine has been approved by the US Food and Drug Administration for the relief of pain associated with postherpetic neuralgia.[1] We previously reported our experience with this patch in treating a young woman who was disabled because of her erythromelalgia.[2] Her pain has been controlled with the topical lidocaine patch for 3 years, and she continues to use the lidocaine patch as the sole intervention for erythromelalgia.

We have since used the lidocaine patch to manage erythromelalgia pain in 33 other patients for whom follow-up is available. A summary of their demographic information and workup is provided in the **Table**. The patients were all severely affected by erythromelalgia, which markedly disrupted their lifestyles, similar to those whom we described previously.[3] All of them presented for a tertiary referral opinion about erythromelalgia, and all had tried multiple modalities of treatment, without success, before presenting to us.

Application of the patch is described in our previous report.[2] The 5% lidocaine patch consists of an adhesive material containing 5% lidocaine. The adhesive material is applied to a nonwoven polyester felt backing and covered with a polyethylene terephthalate film release liner. The release liner is removed before the patch is applied to the skin. Each adhesive patch, which measures 10×14 cm, contains 700 mg of lidocaine (50 mg of lidocaine per gram of adhesive) in an aqueous base. The 5% lidocaine patch was applied to the involved area of

Table. Patients With a Diagnosis of Erythromelalgia*

Patient No./ Age, y/Sex	Subjective Response to Topical Lidocaine, % Improvement	Small-Fiber Neuropathy	Feet Involved
1/81/F	5	Yes	Yes
2/47/F	30	No	Yes
3/32/M	0	Yes	Yes
4/58/F	20-30	N/A	Yes
5/71/F	0	Yes	Yes
6/67/F	0	Yes	Yes
7/76/F	80	Yes	Yes
8/79/F	35	Yes	Yes
9/80/F	0	Yes	Yes
10/39/F	0	No	Yes
11/44/F	5	N/A	Yes
12/17/F	35	Yes	Yes
13/55/F	40	Yes	Yes
14/84/F	0	Yes	Yes
15/24/F	0	Yes	Yes
16/28/F	0	No	Yes
17/21/F	55	Yes	Yes
18/47/M	37	No	Yes
19/59/F	0	Yes	Yes
20/19/M	90	Yes	Yes
21/76/F	0	Yes	Yes
22/68/M	0	Yes	Yes
23/52/M	0	No	Yes
24/78/F	0	Yes	Yes
25/70/F	40	Yes	Yes
26/29/F	0	Yes	Yes
27/75/F	20	Yes	Yes
28/20/F	85	Yes	Yes
29/74/F	80	Yes	No
30/48/F	15	Yes	Yes
31/69/M	0	Yes	Yes
32/53/F	0	Yes	Yes
33/43/F	20	No	Yes

Abbreviation: N/A, not available.
*All patients were white, and the erythromelalgia was the primary disease in all patients except patient 18 (secondary to polycythemia rubra vera).

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erythromelalgia, for example, the dorsum of the foot, where pain was maximal. As recommended by the manufacturer, the patch was removed after 12 hours. Occasionally, patients reported using it for a longer period without any problem.

Overall, 18 patients (55%) reported that their symptoms improved 5% to 90%, with 4 (12%) reporting improvement of 80% or more. For the other 15 patients, the lidocaine patch was either ineffective or associated with local adverse effects. Generally, the greater the complexity, duration, and severity of the erythromelalgia, the less likely it was to respond to the lidocaine patch. A few patients with a complex and long history of erythromelalgia found that the patch was effective as adjunctive treatment in decreasing pain; also, it permitted a decrease in the amount of oral pain medications. No systemic adverse effects or symptoms of lidocaine toxicity were reported by any of the patients. Blood lidocaine levels were measured in 5 patients and were 0. Four patients complained of a "claustrophobic" sensation on their foot after applying the patch, and they stopped using it. One patient reported that blisters developed after the patch was applied; he also stopped using it. These 5 patients are considered "nonresponders."

Lidocaine is used as a local anesthetic and an antiarrhythmic agent. It provides anesthesia by preventing both the generation and the conduction of nerve impulses. Local anesthetics block conduction by decreasing or preventing the large transient increase in the permeability of the neuronal cell membrane to sodium ions.[4] The threshold for electrical excitability gradually increases and produces a conduction block.[5] Recent observations indicate that erythromelalgia is associated with small-fiber neuropathy[2] and, specifically, that sodium channels may be involved in the pain of erythromelalgia.[6] Both of these findings provide a rationale for the use of sodium channel blockers, such as lidocaine, for the treatment of pain associated with erythromelalgia.

Previously, we treated 10 patients with lidocaine gel, without success. We postulate that the patch works because of the continuous release of the lidocaine over a prolonged period. The penetration of lidocaine into intact skin after application of the 5% lidocaine patch is sufficient to produce an analgesic effect, but the amount is less than needed to produce complete sensory block. Interestingly, if the lidocaine patch is used according to the recommended dosing instructions,[7] only 3%±2% (mean±SD) of the dose applied is expected to be absorbed. At least 95% (665 mg) of lidocaine will remain in a used patch. The mean peak blood concentration of lidocaine is approximately 0.13 µg/mL (about one tenth of the therapeutic concentration required to treat cardiac arrhythmias). Repeated application of 3 patches simultaneously for 12 hours (recommended maximum daily dose), once a day for 3 days, indicated that the lidocaine concentration does not increase with daily use.[8]

In conclusion, the lidocaine patch is a useful and safe therapeutic intervention for managing the pain of erythromelalgia. It delivers local analgesia with minimal adverse effects, and it was effective in relieving pain, to some extent, in 55% of even the most afflicted patients who presented to a tertiary referral hospital. We suggest that the lidocaine patch be considered for first-line intervention to control the local pain of erythromelalgia.

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VIGNETTES

CD8$^+$ Lymphoma in a Patient With Human Immunodeficiency Virus

Report of a Case. A 34-year old white man with a 3-year history of eczema presented with a 3-week history of fevers, chills, and a rapidly enlarging 5-cm left thigh mass. His eczema had evolved into erythroderma with hyperkeratotic palms and soles. The mass was excised, and histopathologic analysis showed a dense infiltrate of large CD8$^+$ anaplastic tumor cells extending from the epidermis to the panniculus with Pautrier microabscesses (**Figure 1** and **Figure 2**). An oligoclonal T-cell gene rearrangement was detected by polymerase chain reaction (PCR). A remote skin biopsy finding was consistent with mycosis fungoides (MF) and/or cutaneous T-cell lymphoma (CTCL) and demonstrated a positive monoclonal T-cell receptor gene rearrangement by PCR. Blood flow cytometry showed an inverted CD4/CD8 ratio of 0.1. Antibody testing for human immunodeficiency virus (HIV) and human T-cell lymphotrophic virus 1 and 2 revealed that the patient was HIV positive. The CD4 cell count was 150 cells/mL, and viral load was greater than 100 000 copies/mL. The patient started highly active antiretroviral therapy (HAART) of fixed-dose zidovudine, zidovudine, lamivudine, and abacavir plus efavirenz to decrease his viral load prior to initiating lymphoma-specific systemic therapy. After 2 months of

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