become the recommended treatment for digital BD but is not available in our country, and surgery, in which recurrence rates after wide excision are lower than after local excision. Radiotherapy has been used only rarely for BD of the digit and has been delivered using various techniques (radioactive molds of gold or radon seeds, external beam therapy, photon radiotherapy using a water bath), as have laser carbon dioxide, photodynamic therapy, and topical 5-fluorouracil. However, recurrence rates vary from 0% to 50%. Only an eight-patient study tested the effectiveness of immunocryosurgery in the treatment of BD. Treatment consisted of the daily application of 5% imiquimod cream over three weeks, followed by cryosurgery (two freeze–thaw cycles, 10–20 seconds freezing time). Imiquimod was continued after cryosurgery, and patients were evaluated every three weeks. All lesions cleared completely within a six-month follow-up period. Only three patients required a second course of cryosurgery. In our case, we were unable to apply imiquimod and cryosurgery because of the delay imposed by the need to import it from Europe. Further studies using randomization and placebo control should be conducted to assess the added therapeutic effect of the association of imiquimod and cryosurgery in the management of digital BD.

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Erythrasma: successful treatment after single-dose clarithromycin

A 31-year-old otherwise healthy African-American man presented with pruritic plaques and patches on his inner thighs bilaterally. Cutaneous examination showed well circumscribed brown plaques with overlying white scales and raised borders extending from the inguinal folds down the medial thighs bilaterally (Fig. 1a). Wood’s light showed coral-red fluorescence, and examination of a 10% potassium hydroxide preparation of lesional scales was negative for fungal organisms.

The patient was treated with 1 g of clarithromycin administered orally as a single dose of two 500-mg tablets. There were no medication-associated adverse symptoms. After two weeks the plaques had decreased, and at examination after four weeks resolution of the patient’s erythrasma was confirmed with a negative Wood’s light examination (Fig. 1b).

Multiple options are available for managing erythrasma, including oral and topical therapies. The frequently recommended treatment of choice is erythromycin 250 mg four times daily for 14 days. Other oral treatment modalities include clarithromycin and tetracycline.

Wharton et al. reported three patients whose erythrasma was successfully treated with clarithromycin. Clarithromycin is a macrolide that inhibits protein synthesis by interfering with the translation of RNA into protein by binding to the 50S ribosomal subunit and inhibiting the translocation of the ribosomal subunits.

References

Erythrasma: successful treatment after single-dose clarithromycin
synthesis by binding reversibly to the 50S ribosomal subunit of bacteria with a high affinity for Gram-positive bacteria like Corynebacterium minutissimum. Clarithromycin is structurally similar to erythromycin but differs by a hydroxy to o-methyl substitution at position 6 on the lactone ring.\textsuperscript{3,5,6} This subtle change results in better bioavailability and gastric acid stability, longer half-life, and a broader spectrum of action compared with erythromycin.\textsuperscript{3,5} These features of clarithromycin allow better compliance due to a decrease in frequency and overall dosage and less gastric side effects.\textsuperscript{3}

The systemic treatments for erythrasma are similar in efficacy; however, few direct comparative studies have been performed.\textsuperscript{3,5} Each of the oral medications has their own drug-related advantages and disadvantages. The treatment cost with clarithromycin is substantially lower than either erythromycin or tetracycline, as this drug has become available as a generic preparation (Table 1).

We decided to treat our patient’s erythrasma using a single 1-g dose of clarithromycin because we considered this management to be a safe, cost-effective alternative with better tolerance and compliance in comparison to erythromycin or tetracycline. The patient’s plaques resolved after four weeks, and the Wood’s light examination was negative. The patient tolerated the treatment without any complaints or problems.

Our patient and the three previously reported individuals whose erythrasma was treated with clarithromycin all had erythrasma limited to their groin. Treatment of interdigital erythrasma with clarithromycin has not been reported; whether potential coexisting dermatophytes at this location might result in diminished efficacy remains to be determined. Other macrolides, such as azithromycin, may also be efficacious for the treatment of erythrasma.

In conclusion, erythrasma is a superficial cutaneous bacterial infection of the intertriginous or interdigital areas caused by \textit{C. minutissimum}. Treatment modalities include oral and topical therapies. Single-dose clarithromycin is an effective and low-cost treatment with a high compliance rate. Only a small number of patients who have successfully been treated with single-dose clarithromycin are reported; therefore, additional studies with treatment of erythrasma with a single 1-g dose of clarithromycin should be considered.

\textbf{Figure 1} (a) The left medial thigh shows \textit{Corynebacterium minutissimum} erythrasma infection prior to treatment. (b) The left medial thigh 4 weeks after oral treatment with a single 1-g dose of clarithromycin; plaques of erythrasma are resolved and there is patchy post-inflammatory hypopigmentation present.

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Table 1. Comparison of systemic therapies for erythrasma

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage schedule</th>
<th>Cost ($)</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarithromycin</td>
<td>1 g po: one dose</td>
<td>1.20</td>
<td>Safe</td>
<td>Some GI distress</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Effective</td>
<td>Allergic reactions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>One time dosage</td>
<td>Hearing loss</td>
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<td></td>
<td></td>
<td></td>
<td>Less gastric side effects</td>
<td>Metallic taste</td>
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<td></td>
<td></td>
<td></td>
<td>than erythromycin</td>
<td>Ventricular arrhythmias</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Better compliance</td>
<td>(side effects similar to erythromycin)</td>
</tr>
<tr>
<td>Erythromycin</td>
<td>250 mg po: qid × 14 d</td>
<td>22.40</td>
<td>Safe</td>
<td>GI distress</td>
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<td></td>
<td></td>
<td></td>
<td>Effective</td>
<td>Allergic reactions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Recommended treatment</td>
<td>Hearing loss</td>
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<td></td>
<td></td>
<td>Ventricular arrhythmias</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Cholestatic hepatitis</td>
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<td></td>
<td>Toxic epidermal necrolysis</td>
</tr>
<tr>
<td>Tetracycline</td>
<td>250 mg po: qid × 14 d</td>
<td>11.20</td>
<td>Safe</td>
<td>Photosensitivity</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Effective</td>
<td>GI distress</td>
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<td>Tooth discoloration in children</td>
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<td></td>
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<td>Esophagitis</td>
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<td></td>
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<td></td>
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<td>Allergic reactions</td>
</tr>
</tbody>
</table>

d, daily; GI, gastrointestinal; po, given orally; qid, four times daily.
*This is the cost for total treatment. Costs of medications as per prices quoted from the University of Houston Health Center Pharmacy: clarithromycin 500 mg = $0.60; erythromycin 250 mg = $0.40; tetracycline 250 mg = $0.20.

References
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