

CLINICAL INQUIRIES

What is angular cheilitis and how is it treated?

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EVIDENCE-BASED ANSWER

Cheilitis is a broad term that describes inflammation of the lip surface characterized by dry scaling and fissuring. Specific types are atopic, angular, granulomatous, and actinic. Angular cheilitis is commonly seen in primary care settings, and it specifically refers to cheilitis that radiates from the commissures or corners of the mouth. Other terms synonymous with angular cheilitis are *perlèche*, commissural cheilitis, and angular stomatitis.

Evidence reveals that topical ointment preparations of nystatin or amphotericin B treat angular cheilitis (strength of recommendation [SOR]: **A**, 2 small placebo-controlled studies).

Improving oral health through regular use of xylitol or xylitol/chlorhexidine acetate containing chewing gums decreases angular cheilitis in nursing home patients (SOR: **B**, 1 cluster randomized, placebo-controlled trial).

CLINICAL COMMENTARY

To prevent recurrence, use xylitol gum or lip balms/petroleum jelly in the skin folds

Angular cheilitis is often mistakenly thought to be caused by a vitamin deficiency. As noted in this Clinical Inquiry, *Candida* infections in the moist skin folds around the mouth are the cause in elderly patients. The controlled trials show that antifungal

preparations clearly work. In my experience, most topical anti-candidal agents work. To prevent recurrence, xylitol gum or aggressive use of lip balms or petroleum jelly in the skin folds is needed since these areas will invariably stay moist.

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■ Evidence summary

There is some evidence demonstrating that antifungals effectively treat angular cheilitis. A prospective, double-blind, placebo-controlled study of 8 patients compared the efficacy of nystatin with placebo ointment. These patients were referred to a Department of Oral Diagnosis for sore lips with detected *Candida albicans* lesions located bilaterally.¹ All of the patients were instructed to use one ointment on the right side and the other on the left side.

Contamination was prevented by the use of gloves changed between applications. All 8 patients demonstrated complete healing after 1 to 4 weeks of treatment by nystatin, whereas only 1 patient had complete healing after the placebo, giving a number needed to treat (NNT) of 1.14 ($P < .001$).

A second study compared antifungal treatments with placebo. This randomized-controlled trial from 1975 studied lozenge use of nystatin or amphotericin B in 52 patients with red palate, angular cheilitis,

or both.² These patients were identified through screening of 600 consecutive patients attending the prosthetic clinic for examination or treatment. Patients were randomly given a 1-month supply of nystatin, amphotericin B, or placebo and instructed to dissolve 4 lozenges a day in their mouth. The study did not describe any blinding procedure. Both nystatin and amphotericin B had statistically significant cures rates at 1 month compared with placebo ($P=.05$ and $P=0.01$, respectively). The NNT was 2.7 for the nystatin group and 2.0 for the amphotericin B group at 1 month. A comparison of the 2 antifungals found no difference in cure rate. Recurrence rates at 2 months after discontinuing therapy were the same. The only adverse effect reported was the unpleasant taste of the lozenges, especially nystatin.

Improving oral health is another method proposed to treat angular cheilitis. Many modalities have been suggested including emphasis on denture cleaning, mouthwashes, or medicated chewing gums.

A randomized controlled, double-blind study, performed in 21 English nursing facilities, enrolled 164 patients aged 60 years and older with some natural teeth and evaluated the effects of medicated chewing gum on oral health.³ At the end of 1 year, the 111 patients (67%) completed the study. Fifty-seven percent of the participants wore dentures.

Several aspects were measured including the presence of angular cheilitis. There were 3 arms: no gum, xylitol gum, and chlorhexidine acetate/xylitol gum. The gums were used after breakfast and the evening meal and consisted of 2 pellets to be chewed for 15 minutes. Adherence was described as chewing gum at least 12 times per week for 12 months. A blinded investigator examined patients at baseline, 3, 6, 9, and 12 months.

The results demonstrated a decrease in angular cheilitis in both the xylitol and chlorhexidine acetate/xylitol group at 12 months when compared to the no gum group ($P<.01$). Cheilitis was found in 14% of the xylitol group (compared with 27%

at baseline), 7% of the chlorhexidine acetate/xylitol group (a reduction from 28%), and 32% of the no gum group (no change). The NNT was 7.7 for the xylitol group and 4.8 for the chlorhexidine acetate/xylitol group. This effect size may be exaggerated as the study randomized by nursing home not individual patients, and there was no statistical adjustment for the cluster randomization.

Chewing gum impregnated with chlorhexidine is not readily available in the United States, whereas xylitol-containing gums are available in many retail stores and on-line centers.

Recommendations from others

We found no clinical guidelines regarding the treatment of angular cheilitis. The American Dental Association does mention topical antifungal creams for the treatment of angular cheilitis when discussing oral health and diabetes.⁴ In addition, Taylor's *Family Medicine* recommends antifungals, including nystatin pastilles, clotrimazole troches, or a single 200-mg dose of fluconazole.⁵ *Geriatric Medicine* also recommends topical antifungals to treat angular cheilitis.⁶

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FAST TRACK

Dry scaling and fissuring of the lip respond to topical nystatin or amphotericin B

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