FPIN's Clinical Inquiries

Treatment of Nongenital Warts

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Clinical Inquiries provides answers to questions submitted by practicing family physicians to the Family Physicians Inquiries Network (FPIN). Members of the network select questions based on their relevance to family medicine. Answers are drawn from an approved set of evidence-based resources and undergo peer review. The strength of recommendations and the level of evidence for individual studies are rated using criteria developed by the Evidence-Based Medicine Working Group (http://www.cebm.net/?o=1025).

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Clinical Question

What is the best therapy for treating nongenital warts?

Evidence-Based Answer

Topical salicylic acid, cryotherapy, and topical fluorouracil are effective for treating nongenital warts. (Strength of Recommendation [SOR]: A, based on a systematic review of randomized controlled trials [RCTs].) Fluorouracil is more expensive than salicylic acid and produces more adverse effects, such as pain and blisters. The combination of salicylic acid and cryotherapy may be better than either treatment alone, although salicylic acid may be more cost-effective than cryotherapy. Bleomycin and interferons should not be used to treat nongenital warts. (SOR: A, based on a meta-analysis.)

Evidence Summary

In most healthy patients, viral warts will resolve without treatment. A 2006 Cochrane review of 21 RCTs of various topical treatments for cutaneous warts found an average placebo response rate of 27 percent (range = 0 to 73 percent) over an average of 15 weeks (range = four to 24 weeks).[1]

TOPICAL SALICYLIC ACID

Topical salicylic acid is inexpensive, well tolerated, and effective for treating warts. The same Cochrane review analyzed five RCTs of salicylic acid (322 participants), and demonstrated a 73 percent cure rate with salicylic acid compared with 48 percent with placebo over a treatment period of six to 12 weeks (number needed to treat [NNT] = 4; 95% confidence interval [CI], 3 to 7).[1] The concentration of salicylic acid in these studies ranged from 17 to 60 percent.

CRYOTHERAPY

The Cochrane review also analyzed two RCTs (320 participants) comparing cryotherapy with salicylic acid for the treatment of warts, and found no statistically significant difference in effectiveness.[1] A combination of cryotherapy and salicylic acid may be better than either treatment alone. In the Cochrane analysis, the NNT for combined therapy versus cryotherapy alone (328 participants) was 8 (95% CI, 5 to 50). The NNT for combined therapy versus salicylic acid alone (318 participants) was 6 (95% CI, 4 to 22). Aggressive cryotherapy (e.g., double or 30-second freeze) was more effective than gentle cryotherapy (e.g., single or 15-second freeze) in a subanalysis of four RCTs (592 participants; NNT = 5; 95% CI, 3 to 7).[1] However, aggressive cryotherapy caused more blistering and burning than salicylic acid or gentle freezing (number needed to harm = 5; 95% CI, 3 to 15).[1]

COST-EFFECTIVENESS

A British study of various wart therapies found that salicylic acid is more cost-effective than cryotherapy.[2] Data on cost and cure rates were obtained from various sources, including published literature, patient surveys, focus groups, and expert opinion. When compared with no treatment, the incremental cost (defined as cost for each 1 percent increase in cure rate) for salicylic acid was approximately $3.75. The incremental cost for cryotherapy ranged from about $5 to $12, depending on the number of treatments.

OTHER TOPICAL AGENTS

Data from the Cochrane review found that topical fluorouracil was no better than topical salicylic acid for curing warts.[1] Additionally, the cost of fluorouracil is more than 15 times that of salicylic acid.[3] Fluorouracil

in combination with cryotherapy may cause more pain and blistering than cryotherapy alone. A double-blind RCT of 80 patients compared cryotherapy plus fluorouracil with cryotherapy alone and found a nonsignificant trend toward more pain and blistering associated with fluorouracil. The number needed to harm was 6 (95% CI for blisters, –3 to 25; 95% CI for pain, –3 to 87).[4]

Two small, unblinded, and uncontrolled studies of 37 and 50 participants suggest that imiquimod (Aldara) may be effective for treating recalcitrant warts.[5,6] The authors reported total clearance of recalcitrant warts in 27 and 30 percent of patients treated with imiquimod for a mean of 19 and nine weeks, respectively. The effectiveness of treatment with duct tape is unclear. In a prospective, randomized trial of 61 patients, duct tape seemed more effective than cryotherapy,[7] but a double-blind placebo-controlled study of 80 patients found no difference.[8] The Cochrane review found insufficient evidence to support intralesional bleomycin or interferons for the treatment of warts.[1]

Recommendations from Others

According to the American Academy of Dermatology, warts may regress spontaneously, and treatment varies depending on the type of wart and patient age.[9] Salicylic acid may be preferred for treating warts in young children, and it can be applied at home. For adults and older children, cryotherapy is generally preferred, but may take multiple applications over weeks to months.[9]

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