

Low efficacy in the use of 5% potassium hydroxide solution to treat contagious molluscum

Baixa eficácia do uso de solução de hidróxido de potássio a 5% por 28 dias no tratamento de molusco contagioso

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ABSTRACT

Although treating contagious molluscum with 5% potassium hydroxide solution is common, some studies challenge its efficacy. Ten patients (aged 4–13) with a total of 141 lesions were evaluated. After 28 days of treatment there were 105 lesions (75% of the initial amount), none of which achieved total resolution. Persistent lesions were curetted in up to two sessions; 28 of the 105 lesions remained after treatment. The percentages of reduced or completely resolved lesions were higher for curettage than potassium hydroxide (71% x 9%, $p = 0.01$ vs. 80% x 0%, $p = 0.02$).

Keywords: molluscum contagiosum; therapeutics; curettage.

RESUMO

O uso da solução de hidróxido de potássio a 5% para tratar molusco contagioso é comum, embora existam estudos discordantes sobre sua eficácia. Avaliamos 10 pacientes entre quatro e 13 anos. O número de lesões iniciais totalizava 141. Após 28 dias de tratamento havia 105 lesões (75% da carga inicial), e nenhuma obteve clareamento total. As lesões persistentes foram curetadas em até duas sessões. De 105 lesões restaram 28. A porcentagem de redução das lesões e a proporção de resolução completa foram superiores para a curetagem (71% x 9%; $p = 0,01$ / 80% x 0%; $p = 0,02$).

Palavras-chave: molusco contagioso; terapêutica; curetagem.

Molluscum contagiosum (MC) is a common infectious disease that affects mainly school-age children. It manifests clinically as hemispherical, sessile and umbilicated papules, situated mostly on the trunk, limbs and genitals.¹ The lesions tend to be self-limited, with spontaneous regression within six to 18 months.² Nonetheless, MC presents local complications such as pruritus, inflammation and bacterial superinfection, and disrupts the daily lives of affected individuals and their carers.³

Many treatments are available for this condition: from topical, such as the application of potassium hydroxide solution (PHS), imiquimod, cantharidin, tretinoin, salicylic and lactic acids, curettage procedures and liquid nitrogen application, to systemic treatments, such as the use of cimetidine.^{4,5}

PHS is an inexpensive medication and is widely available through magistral dispensing pharmacies; it treats using its caustic and proteolytic power on the lesion. Studies have shown that topical application of PHS in concentrations ranging from 10–20% is effective in treating MC, however it can cause significant

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pain and even persistent scarring.^{2,6} Although there are no studies to demonstrate its efficacy, the use of PHS in lower concentrations (5%) is relatively widespread in Brazil.⁷

A brief study of patients with non-immunosuppressed MC, who sought care at our institution in 2009, was carried out to evaluate the use of PHS in those concentrations. Patients (and relatives) were instructed to apply the solution with a swab on lesions twice a day until they presented erythema, crusting or exulceration. They were instructed to use the same procedure for lesions arising during the treatment. The patients were reassessed after 28 days. If they presented residual lesions, they would undergo curettage.

Ten patients (five female) completed the study. Ages ranged from 4–13 years, and the condition's duration from 3–12 months. The number of initial lesions ranged from 3–30 per patient (total of 141). Twenty-eight days after treatment with PHS, there were 105 lesions (including new, persistent and recurrent lesions) – a reduction of only 25% compared to the initial number. In addition, two patients presented an increase in the number of lesions, and none achieved total cure.

Persistent lesions were treated through curettage in up to two sessions every 14 days. Initially there were 105 lesions, with only 28 (two patients) remaining, a reduction of 73%. Although the sample was small, both the percentage of reduction in the number of lesions and the proportion of complete resolutions were significantly higher for curettage (71% compared to 9%, $p = 0.01$ – Mann-Whitney/80% compared to 0%, $p = 0.02$ – Fisher's Exact Test).

Since the curettage treatment was after the PHS application, a direct comparison of the results may be impaired. On the one hand, it might be argued that pre-treatment with PHS would have had an immunomodulatory effect, enhancing the host's response to the subsequent treatment. On the other hand, the lesions that underwent curettage could have formed a "selected" group that was more resistant to treatment than the initial group of lesions. Regardless, the 25% effectiveness rate achieved after four weeks of regular treatment is poor for a generally self-limited condition, for which there are other effective and safe treatments.

Evaluating 35 children with MC who were treated with 10% PHS, Romiti and colleagues obtained total efficacy in 32 after an average treatment period of 30 days, however three children left the study due to side effects such as severe pain and bacterial superinfection.⁸ Other authors have obtained similar findings. Nevertheless, less concentrated solutions – and possibly better tolerated ones – have not been widely evaluated.^{2,6}

Patients were divided in their preference for the two treatments. Although curettage may be more painful during the procedure, the 5% PHS caused more persistent discomfort and required more attention from the carers to apply twice daily for several days.

According to our results, 5% PHS used for 28 days in the treatment of MC was not efficient, yet it does not rule out greater long-term efficacy. In addition, the studied treatment was not better tolerated than curettage.

Wider studies should be conducted to evaluate the use of PHS in different concentrations, comparing it with more established treatments (such as curettage) in terms of efficacy, safety and tolerance, in order to define its role in treating this common condition. ●

REFERENCES

1. Sampaio SAP, Rivitti EA. *Dermatologia*. 3ª Ed. São Paulo: Artes Médicas, 2007. p.573.
2. Short KA, Fuller LC, Higgins EM. Double-blind, randomized, placebo-controlled trial of the use of topical 10% potassium hydroxide solution in the treatment of molluscum contagiosum. *Pediatr Dermatol*. 2006;23(3):279-81.
3. Hanna D, Hatami A, Powell J, Marcoux D, Maari C, Savard P, et al. A prospective randomized trial comparing the efficacy and adverse effects of four recognized treatments of molluscum contagiosum in children. *Pediatr Dermatol*. 2006;23(6):574-9.
4. Simonart T, De Maertelaer V. Curettage treatment for molluscum contagiosum: a follow-up survey study. *Br J Dermatol*. 2008;159(5):1144-7.
5. van der Wouden JC, van der Sande R, van Suijlekom-Smit LW, Berger M, Butler C, Koning S. Interventions for cutaneous molluscum contagiosum. *Cochrane Database Syst Rev*. 2009;(4):CD004767.
6. Mahajan BB, Pall A, Gupta RR. Topical 20% KOH—an effective therapeutic modality for molluscum contagiosum in children. *Indian J Dermatol Venereol Leprol*. 2003;69(2):175-7.
7. Romiti R, Ribeiro AP, Romiti N. Evaluation of the effectiveness of 5% potassium hydroxide for the treatment of molluscum contagiosum. *Pediatr Dermatol*. 2000;17(6):495.
8. Romiti R, Ribeiro AP, Grinblat BM, Rivitti EA, Romiti N. Treatment of molluscum contagiosum with potassium hydroxide: a clinical approach in 35 children. *Pediatr Dermatol*. 1999;16(3):228-31.