



Effectiveness of trichloroacetic acid in treatment of focal epithelial hiperplasia lesions

Efectividad de la terapia con ácido tricloroacético en el tratamiento de lesiones en la hiperplasia epitelial focal

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ABSTRACT

Objective: The aim of the present study was to assess effectiveness of trichloroacetic acid therapy in the treatment of oral lesions produced in focal epithelial hyperplasia cases. **Material and methods:** In the present study 11 patients were included. Patients exhibited clinical and histopathological characteristics of focal hyperplasia and were willing to participate in the study. Convenience sampling was executed in patients attending clinical consultation at the Dental Clinic of the Rafael Nuñez University Corporation and the University of Cartagena. Patients underwent excision biopsy in one of the lesions so as to establish anatomical-pathological diagnosis. Subsequently, 80% trichloroacetic acid was applied every two weeks on the lesions, until lesions disappeared. **Results:** Out of 11 pediatric patients 63.64% were female, average age nine years. Locations of greater involvement in the mouth were upper and lower labial mucosa (representing 100%). Anatomical-pathological study revealed in all cases presence of epithelial acanthosis, papillomatosis and koilocytosis. The greatest number of acid applications was three and four episodes with 27%, average time for lesion disappearance was 61.3 days. No relapse was observed in 100% of cases. **Conclusion:** Trichloroacetic acid application in focal epithelial hyperplasia cases is an effective technique which achieves rapid, atraumatic stress-free lesion resolution which did not generate fear in involved patients.

Key words: Trichloroacetic acid, focal epithelial hyperplasia, papillomavirus infections.

Palabras clave: Ácido tricloroacético, hiperplasia epitelial focal, infecciones por papillomavirus.

RESUMEN

Propósito: El propósito del estudio fue evaluar la efectividad de la terapia con el ácido tricloroacético en el tratamiento de las lesiones orales producidas en la hiperplasia epitelial focal. **Material y métodos:** Se incluyeron 11 pacientes que presentaron características clínicas e histopatológicas de hiperplasia epitelial focal y que aceptaron participar en el estudio, se aplicó muestreo por conveniencia, en pacientes que asistieron a consulta de la clínica odontológica de la Corporación Universitaria Rafael Núñez y la Universidad de Cartagena, se les realizó biopsia excisional en una de las lesiones para establecer diagnóstico anatomopatológico, posteriormente se aplicó ácido tricloroacético al 80% sobre las lesiones cada quince días hasta que desaparecieron. **Resultados:** De un total de 11 pacientes pediátricos el 63.64% fueron de género femenino, promedio de edad fue nueve años, los sitios de mayor afectación en cavidad bucal fueron mucosa labial superior e inferior representando un 100%, en el estudio anatomopatológico se describió la presencia de acantosis epitelial, papilomatosis y coilocitosis en todos los casos, el mayor número de aplicaciones con el ácido fue tres y cuatro veces con un 27%, el promedio de desaparición de las lesiones fue de 61.3 días, no se ha presentado recidiva en el 100% de los casos. **Conclusión:** La aplicación del ácido tricloroacético en la hiperplasia epitelial focal es una técnica efectiva, consiguiendo la resolución de las lesiones en forma rápida, poco traumática, sin generar ansiedad y temor en los pacientes.

INTRODUCTION

Focal epithelial hyperplasia is a benign, chronic illness, mainly affecting children. It manifests in the oral mucosa and is caused by human papilloma virus. It is related to subtypes 13 and 32;^{1,2} it is common in North American native subjects. In Colombia it is mostly found in the Antioquia and Chocó districts.^{3,4} It is clinically characterized by presence of multiple papules involving the whole of the oral mucosa. Lesions can be found in the gums, labial and buccal mucosa and the tongue. Lesions are asymptomatic and of variable size^{5,6}

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Histopathological study of lesions reveals formation of parakeratin layers and extensive acanthosis. Epithelial cells of the stratum spinosum show large nuclei with vacuolated cytoplasm indicating koilocyte degeneration.^{7,8}

From a therapeutics perspective, the disease tends to exhibit spontaneous regression, and this regression can persist for 10 up to 30 years, which implies that patients will exhibit lesions during all their childhood, adolescence and part of their adult life. This situation might generate oral problems as well as psychosocial issues such as rejection.^{9,10} Treatment alternatives can be surgical excision, cryosurgery, 5% imiquimod and laser ablation. Nevertheless, all the aforementioned are trauma-inducing techniques, some are immunomodulating techniques, and might cause anguish, anxiety and fear in the patient.^{11,12}

Trichloroacetic acid (TAA) is a favorable therapeutic option, it elicits little trauma or negative emotional reactions, nevertheless its use requires further study.¹³ TAA is chemically composed of carbon, chloride, oxygen and hydrogen. It causes denaturalization, precipitation and destruction of lesions by means of chemical coagulation of affected tissue. Clinically, certain flattening of the lesions can be observed.¹⁴ It is used for the treatment of vaginal infections caused by human papilloma virus in conditions such as papilloma, condyloma and common warts (verruca vulgaris). Suitable results are obtained when this acid is used at concentrations higher than 80%.^{15,16} Harris et al applied TAA in oral lesions of two pediatric patients; they observed lesion resolution with two topical applications.¹⁷ Leon et al reported two cases of patients afflicted with FEH (focal epithelial hyperplasia), who showed satisfactory results after being treated with TAA.¹⁸

The aim of the present study was to assess effectiveness of trichloroacetic acid therapy in treatment of focal epithelial hyperplasia.

MATERIAL AND METHODS

A prospective analytical study was conducted with an intervention component. Eleven patients were included in the study, according to population. Patients exhibited clinical and histopathological characteristics of focal epithelial hyperplasia and had previously signed informed consent forms. Convenience sampling was applied to patients attending dental services at the clinics of the Rafael Nuñez University Corporation and the University of Cartagena. Initially, an intraoral examination was conducted in subjects showing clinical impression of focal epithelial hyperplasia

(Figure 1). Patients were subjected to incision biopsy in one of the lesions so as to establish anatomical and pathological diagnosis. At a later point, and following Beutner et al protocol,¹⁹ 80% trichloroacetic acid was applied.

To begin with, the area was cleansed with abundant water supply and the lesion surface was dried. After this, TAA was applied over the lesions with a hyssop; after 90 seconds the lesion acquired an intense white



Figure 1. Multiple papules located in the right oral mucosa, lower lip and tongue.



Figure 2. Application of 80% trichloroacetic acid on the lesions.

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