

# Dental Treatment with 30% Trichloroacetic Acid in a Patient with Moderate Hemophilia A

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## ABSTRACT

We present the case of a 51-year-old moderate hemophiliac with gingival bleeding due to papillary inflammation and adherence in the molar area 47. After dental diagnosis a calculus was removed and 30% trichloroacetic acid was placed by a pressurized applicator for five seconds; the procedure was repeated until the bleeding stopped, then tranexamic acid was placed by a gauze. The patient chewed the gauze for 30 minutes and was discharged after repeating the same procedure for 30 minutes more. We observed how local treatment with trichloroacetic acid combined to tranexamic acid placed on the hemorrhagic site was able to stop the bleeding.

**Keywords:** Hemophilia; Dental Treatment; 30% Trichloroacetic Acid; Clotting Factor

## 1. Introduction

Hemophilia A is a congenital bleeding disorder caused by the mutation of gene on the X chromosome coding for coagulation Factor VIII (FVIII). The normal FVIII range is 50% - 150%. The severity of hemophilia is related to the amount of the clotting factor in the blood. The classification is made in severe (<1%), moderate (1% - 5%), and mild (5% - 40%). Patients with severe hemophilia experience repeated and frequent spontaneous hemorrhagic episodes, most commonly hemarthroses [1]. Patients with moderate hemophilia mostly suffer from traumatic bleeds only and generally do not experience spontaneous bleeding. The treatment involves the replacement of the deficient clotting factors by intravenous infusion to either control or prevent bleeding. Desmopressin, a synthetic derivative of the vasopressin, can increase factor VIII level in some patients with mild or moderate forms of hemophilia A. In the dental management of hemophilic patients, it is important to manage the bleeding areas and also prevent any trauma during dental procedure [2]. Bleedings may be caused by mucosal irritation due to the continuous contact of dental calculus, or because of presence of plaque and its mineralization produced by gingival inflammation related to food and bacterial deposition in the periodontal pockets. In hemophiliac patients the excess of irritant agents can cause continuous bleedings. The 30% trichloroacetic acid (TCA) is an organic product with caustic action frequently used in dermatology for various treatments as

acne scars and aging skin treatment [3,4]; at higher concentrations it is used in condylomata acuminata, warts and peeling. The TCA procoagulant effect can be locally used in dentistry for patients with bleeding disorders [5].

## 2. Case

A 51-year-old male patient with mild hemophilia A was admitted to the "Fundación Hemo Hermanos Venezuela" Dental Clinic. He presented gingival bleeding due to papillary inflammation and adherence in the molar area 47 because of presence of local irritants in the same lower right area. His hemorrhagic history was more severe than his grade of hemophilia severity due to about 10 - 12 hemarthroses per year treated "on-demand" with FVIII concentrates. Before dental treatment he was referred to the local hospital for the hematologic evaluation: the clinical examination confirmed the gingival hemorrhage excluding other sites. Laboratory coagulation tests evidenced absence of inhibitor to Factor VIII, prolonged activated partial thromboplastin time (74 sec.) and was confirmed the moderate hemophilia (FVIII level 2%); the outpatient dental treatment was authorized. At the dental clinic the calculus was removed immediately and 30% TCA was placed by a pressurized applicator for five seconds. This procedure was repeated several times until the bleeding stopped; then was placed tranexamic acid 500 mg in vial directly to the site by a gauze. The patient chewed the gauze for 30 minutes and was discharged after repeating the same procedure for 30 minutes more.

### 3. Discussion/Conclusion

The literature described many dental treatment protocols for hemophiliacs using oral antifibrinolytic agents, systemic hemostatic replacement therapy, and local hemostatic agents [6]. Minimizing the use of clotting factor concentrates may be very important in those countries where their availability is difficult. This patient, despite of moderate hemophilia, reported a significant history of intra-articular bleedings episodes: this could imply the possibility of a significant bleeding during dental procedures, but the factor replacement as well as desmopressin therapy was successfully avoided. Our case report confirms how local dental hemostatic measures can achieve hemostasis reducing the needs for clotting factor replacement therapy.

We observed how local treatment with 30% TCA combined with tranexamic acid 500 mg in vial, placed on the hemorrhagic site by a gauze, was able to stop the bleeding. In our experience we did not report significant side or adverse effects related to the use of TCA also in patients without congenital hemorrhagic diseases. The TCA at 30% concentration has only hemostatic effect. When used in patients with conditions affecting the mucosa precautions should be short TCA application time and drying of the applicator to limit the mucosal contact. In any case, an accidental damage to the mucosa, related to the contact with TCA, will be mild and transient and will resolve within few days without inconvenience.

Further studies on patients with bleeding disorders are needed to confirm the role of 30% TCA as procoagulant in dental hemorrhagic episodes or as antihemorrhagic in

prophylaxis during dental procedures.

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