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Original Research Paper

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DENTAL MANAGEMENT OF A CHILD WITH INCIDENTALLY DETECTED HEMOPHILLIA: A CASE REPORT

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ABSTRACT Children with Hemophilia (A or B) are at risk of bleeding episodes, ranging from mild mucosal/soft tissues bleeding to life threatening hemorrhages. This report describes the management of a 6.5-year-old boy with a large clot after a suture at the labial frenum after 3 days, the patient suffered slow bleeding from the labial suture leading to a heavy clot, in which hemophilia was a true accidental finding. Additionally, diverse precautions to be taken during the dental clinical treatment of hemophilic children are discussed.

KEYWORDS : Hemophilia, Child Patient, Hereditary, Bleeding, Clot

INTRODUCTION

Hemostasis disorders are classified as coagulation factor deficiencies, platelet disorders, vascular disorders, and fibrinolytic defects [1]. Hemophilia belongs to the first group of these diseases, clinically characterized by prolonged clotting time and excessive bleeding into mucosa, soft tissues, muscles, and weight-bearing joints [1, 2]; joint bleeding or hemarthroses can result in debilitating arthropathy [3]. Hemophilia A, which is known as classical hemophilia, is a hereditary hemorrhagic disorder that results due to scarcity or congenital deficit of factor VIII (FVIII), which manifests as unusual and excessive bleeding either spontaneously or secondary to trauma. Consequently, the blood clotting cascade may be disturbed, resulting in a significant increased bleeding time, evidenced mainly by a prolonged activated partial thromboplastin time (aPTT) [4,5]. Hemophilia is an X chromosome-linked hereditary lifelong bleeding disorder, with a frequency of 1 in 5,000–30,000 births, approximately [3, 6]. The gene with the information for building factor is found only on the sex chromosome labelled X (dominant). This is the reason why only female offsprings will be carriers to the male hemophilia A patients [7].

This disease has been subclassified in three subtypes: A, representing 80–90% of total cases (or 1 : 5000 births), where females are carriers, males are only affected, and male-to-male transmission does not occur; B (Christmas disease), which is much less common (1 : 30,000 births); and C (Rosenthal syndrome), also very rare [3, 6]. Additionally, a fourth type of hemophilia was proposed by the Norwegian physician Owren in 1947 [8], the Owren's disease or parahemophilia, caused by a deficient factor V, with an incidence of 1 case per 1million children [1, 9]. A and B types are clinically indistinguishable [3] and are caused by deficiencies of the coagulation mechanism factors VIII (or antihemophilic factor) and IX (or plasma thromboplastin component), respectively; C subtype results from a deficiency of factor XI [2, 6]. There is no specific racial or geographic preference for the disease. Although it is passed down from parents to children, the disorder shows no familiar history; about 1/3 of cases are caused by a spontaneous or sporadic mutation [10, 11]. The prognosis of affected children depends on their incapacity degree, presence of antibodies against factor VIII, and presence of hepatitis or other liver diseases, or HIV/AIDS [12]. Severe hemophilia often manifests in the first months of life, whereas mild or moderate hemophilia will present later in childhood or adolescence often incidentally or following trauma.[13]

Case Report

A 6.5-year-old boy presented with his mother to the hospital (Janki Memorial Hospital) complaining of trauma a week ago. The child had visited a local medical facility, along with his mother, where his labial frenum was sutured with the help of a resorbable suture. Two days later the area around the suture started bleeding and Inj. Tranexa and Inj. Vit. K were administered immediately and the patient was sent off.

On presenting at the hospital (Janki Memorial Hospital), the parent gave history of bleeding from the site for 2 days. Upon history taking the child has shown no history of significant bleeding events in the past (e.g from gingiva during tooth brushing, medical disorders particularly bleeding diasthesis or exposure to surgical interventions). The child's mother revealed, her father had a history of bleeding disorder, which was accidentally found out during a procedure of extraction.

On clinical examination a clot measuring about 15-20 cm was seen hanging from the labial frenum extending to the lower lip. The clot had completely covered the suture.

A signed informed consent was obtained from the parent before the treatment. It was decided to remove the extra-hanging clot to gain access to the oral cavity. The clot was removed safely, leaving about 10-15mm attached to the labial frenum. Haemostasis was achieved and the patient was kept under observation for about 3-4 hours, while blood investigations (BT, CT, PT, aPTT) were carried out.

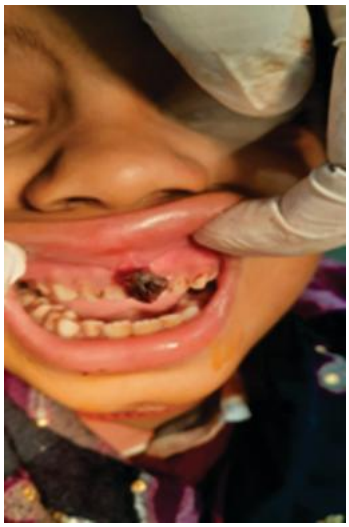

Fig 1. Initial Removal of Overhanging Clot, Leaving 10-15mm Attached to the Frenum.

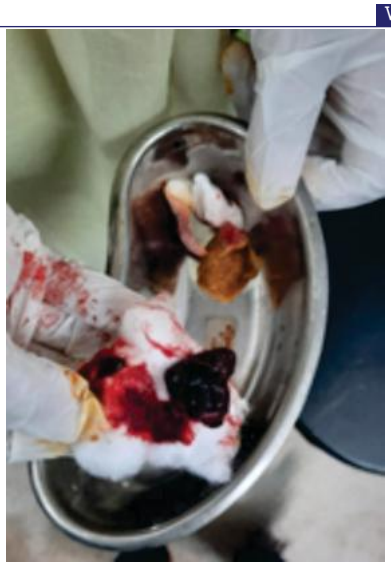

Fig 2. The Detached Clot.

Laboratory findings revealed prolonged bleeding time, clotting time, and activated partial thromboplastin time. (BT- >7minutes, CT- >15minutes, aPTT- >35 seconds and PT- >13seconds). These results were considered higher than normal and it indicated Mild Haemophilia. The patient was closely monitored and given medications. Strict instructions were given not to pull the lips and soft diet was advised. After 2 days of follow-up, the parent reported that the remaining clot had fallen off on its own, after which the suture was visible clinically.

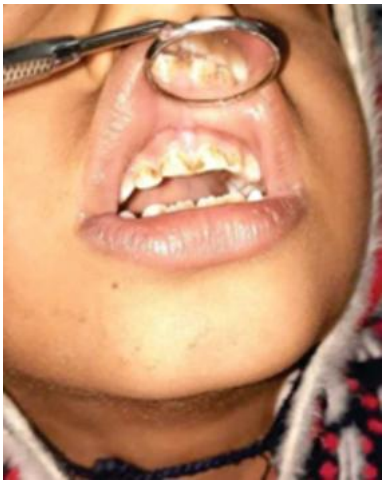

Fig.3 Final Follow-Up, Labial Frenum Healed Completely.

After 7 days follow up, during the final examination, the child's labial frenum had healed completely, and the child did not show additional unusual bleeding, or any other oral/systemic complication.

DISCUSSION

Haemophilia is categorized as mild, moderate, or severe based on the total number of clotting factors in human blood. FVIII and FIX often fall between 50% to 150%. Sixty percent of all hemophiliacs have severe hemophilia (<1% factor activity), which can cause spontaneous bleeding into muscles and joints. About 15% of people with hemophilia have moderate hemophilia (1%–5% factor activity), which causes bleeding following mild traumas and sporadic spontaneous bleeding episodes. In those with moderate hemophilia (6%–49% factor activity), bleeding usually only happens following trauma or surgery.[14]

About 25% of people have moderate hemophilia, which may normally cause relatively little symptoms. Mild hemophilia sometimes goes undiagnosed until adolescence or later, especially in individuals who have not experienced childhood trauma, major operations, or teeth extractions [15]. Children with hemophilia frequently experience hemorrhagic episodes in the extremely vascular mouth cavity. The lip and tongue frenum are the most often bleeding areas following procedure-induced damage [7, 9, 16]. There are a lot of expanded capillaries close to the surface in these oral areas. As a result, bleeding is more likely [15]. Hemophilia A affects about 1 in 10,000 people. However, 30% of instances may not be linked to a family history since they are the result of novel mutations. [17,18] A World Federation of Hemophilia research found that over 70% of hemophilia patients lack access to treatment and that over half of the world's hemophilia patient population is in India.[19]

The use of antifibrinolytic drugs as adjuvant treatments, either in addition to or instead of replacement therapy, can improve local homeostasis in individuals with moderate hemophilia. Tranexamic acid has been recommended by certain writers [4, 12, 20, 21] as a topical and systemic treatment to lessen bleeding issues during dental surgery. After a tooth extraction, this medication is applied topically to the socket; systemically, a dosage of 1 g (or 30 mg/kg) is administered orally, via an infusion, or prior to surgery. However, in cases of mild to moderate hemophilia, desmopressin, a synthetic analog of vasopressin, has also been successfully administered as an intravenous infusion or intranasal spray before dental treatment; this vasoactive medication has shown a 4.7-fold increase in factor VIII levels in plasma, which is sufficient to enable safe oral management [22].

CONCLUSION

Since hemophilia is the most prevalent clotting disorder in the world and can cause life-threatening conditions during routine dental treatment, pediatric dentists should always pay close attention to and be aware of the potential risks of bleeding disorders. For successful outcomes in the dental management of patients with inherited bleeding disorders, newer tools such as dental bleeding risk assessment and treatment tools should be used. These tools enable a thorough evaluation of bleeding risk with the potential to minimize unnecessary treatment and aid interdisciplinary communication among various clinical teams.[23]

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