



Case Report

Topical use of tranexamic acid for the management of post-procedural rectal bleeding☆

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ABSTRACT

Tranexamic acid (TXA) is increasingly used in the Emergency Department (ED). While the intravenous form has been extensively studied and used, its utility in a topical formulation is not as widespread. Its reported use in the ED is mostly for control of epistaxis. We present a case of a 61 year old male with post-procedural rectal bleeding, responsive to topical application of tranexamic acid. This case report demonstrates another novel application of TXA in emergency care.

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1. Case

A 61 year old male with a past medical history of hypertension, elevated prostate specific antigen, and atrial fibrillation maintained on aspirin and metoprolol, was transferred to the ED from urology clinic after a trans-rectal prostate biopsy was complicated by post-procedural bleeding. The patient had undergone a prostate needle biopsy in clinic and was noted to have larger than expected bleeding per rectum post-procedurally, with an estimated blood loss of 100–200 mL. The rectum was packed with a gauze roll in order to control bleeding. Vitals in clinic were normal except for blood pressure elevated to a systolic of 150 mm Hg (diastolic not recorded). During transfer to ED by emergency medical services, the patient experienced a short syncopal episode.

In the ED, the patient was hypotensive to 98/53 mm Hg, was pale and in distress, but alert. He was noted to have rectal packing in place with apparent hemostasis. However, on examination of the anus and packing, several clots became apparent and bleeding continued.

Packing was replaced with a fresh gauze roll, however hemostasis was still not achieved.

Another gauze roll, soaked in 5 mL of injectable 100 mg/mL TXA was then placed into the rectum to achieve hemostasis. Bleeding was noted to have ceased at re-evaluation five minute post gauze roll placement. The patient was re-evaluated at 30 minute intervals for the next 2 h

with no further bleeding noted. He was admitted for overnight observation. The patient's first hematocrit post-procedure was 44.1%, trending downwards to 38.1% over the course of the patient's resuscitation. The decline was mirrored by decreases in both white blood cell count and platelet count (18,600/mcL to 14,000/mcL and 206,000/mcL to 185,000/mcL, respectively). During this time the patient received 3 L of normal saline boluses, suggesting a dilutional component to the decline. The patient was discharged the next day with no further bleeding noted, with a hematocrit of 34.1%.

2. Discussion

TXA, an antifibrinolytic derivative of lysine that competitively inhibits the conversion of plasminogen to plasmin, has become increasingly more utilized in the ED. Intravenously, TXA has shown benefit in decreasing mortality among patients presenting with severe hemorrhage [1] and emergency physicians are becoming familiar with its use in this capacity. Topically, it is extensively used in orthopedic surgery and has been shown to decrease peri-operative bleeding in cases of total hip/knee arthroplasty [2–4]. It use is also reported in dental/oral bleeding [5], and post-partum hemorrhage [6]. In the ED, topical TXA has primarily been used for cases of epistaxis [7]. There is a newly emerging body of ED literature that has found successful use of TXA in trials for treatment of epistaxis [8,9] and urinary tract bleeding [10].

In this case report, we present a novel use of topical TXA for the control of a post-procedural gastrointestinal bleed, refractory to conventional methods of bleeding control. While topical use of TXA for cutaneous bleeds has been described prior in the literature [11], evidence for its use in rectal bleeding is sparse [12]. Rectal bleeding is the most common adverse event in transrectal prostate biopsy; however, severe bleeding is rare [13,14]. While conventional methods remain

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the standard protocol for controlling post procedural bleeding, some studies have advocated for the prophylactic insertion of prophylactic hemostatic gelatin sponges to decrease the incidence of severe hemorrhage [15]. Bleeding in this scenario is likely localized, and the availability of TXA in EDs and its low cost make it an ideal agent for this type of bleed.

The dosing used in this patient was similar to prior reports in the literature for topical use [8]. Given the low risk of adverse events with topical TXA and limited available data, this case represents a possible use of TXA for the emergency management of a severe rectal bleed. TXA in its topical form seems to be a useful agent for hemorrhage control when standard methods have failed. Further studies to examine the safety and efficacy of TXA in gastrointestinal bleeding are warranted.

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