OUR LADY OF THE LAKE RMC

InPharmation

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Inhaled Tranexamic Acid

By Mackenzie Piche, PharmD

Hemoptysis is defined as blood expectorated from the airways or lung parenchyma. There are many potential causes for this including chronic obstructive pulmonary disorder (COPD), malignancy, asthma, and/or upper respiratory tract infections. Current treatment is generally targeted towards management of the underlying cause or angiographic embolization in an effort to stop the bleeding. In the past few years, several case reports describing the successful use of inhaled tranexamic acid (TXA) have been published.

TXA is often administered intravenously in carefully selected patients for bleeding; however, it has also been used topically in patients with epistaxis. TXA inhibits fibrinolysis by binding to plasminogen and preventing its conversion to plasmin (see Figure 1). This prevents the degradation of fibrin clots and other proteins present in the blood.

A small randomized controlled trial published in CHEST in 2018 by Wand, et al. evaluated the safety and efficacy of TXA for hemoptysis. The study included 47 patients, 25 of which were randomized to receive 500mg via inhalation three times daily. The remaining 22 patients received a normal saline solution inhaled at the same frequency. The patients could receive the nebulized solution for up to 5 days. Exclusion criteria included coagulopathy (INR > 2), renal or hepatic failure, hemodynamic or respiratory instability, and large volume hemoptysis (more than 200 mL in a 24 hour period).

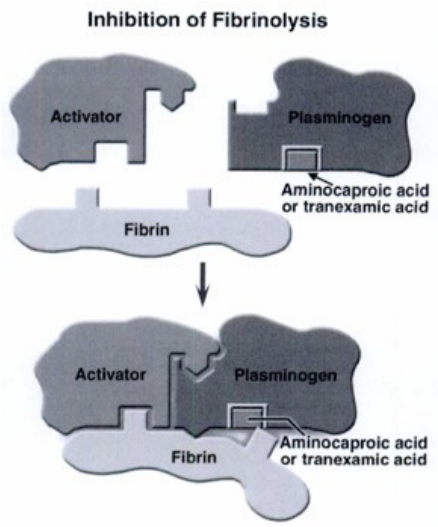

Figure 1. Thrombosis and Hemorrhage, 3rd Ed. 2003: 920.

The primary outcomes were rates of resolution of hemoptysis on day 5 and volume of expectorated blood. The secondary outcomes included rate of interventional bronchoscopy, angiographic embolization or surgery, hospital length of stay, mortality, and occurrence of side effects.

Resolution of bleeding was observed in 96% of those receiving TXA vs 50% of those receiving placebo ($p < 0.005$). In addition, the volume of expectorated blood was significantly less in the TXA group by day 2. No patients in the TXA-treated group required invasive intervention, compared to 18.2% in the placebo group ($p = 0.041$). Mean hospital length of stay was 5.7 ± 2.5 days in the TXA group, compared to 7.8 ± 4.6 days in the placebo group. There were no side effects reported in either group.

Some limitations of the study include failure to define hemodynamic and respiratory instability, lack of explanation for how resolution of hemoptysis was defined, the small sample size, and that it was not noted whether any patients on anticoagulants received reversal agents, which may have contributed to faster resolution of bleeding.

The Bottom Line:

Treatment of hemoptysis with TXA appears to be safe and efficacious based on the limited data available. More research is needed to confirm the role, as well as the ideal dosing and duration of TXA therapy in hemoptysis treatment.

Policy Changes

An update to the Clozapine Risk Evaluation and Mitigation Strategies (REMS) program states that if a provider prescribes clozapine to an inpatient *already in enrolled* in the REMS program , the provider does not need to be certified through the REMS program.

However, if the patient is going to be initiated on clozapine while admitted to the inpatient setting, the provider does need to be certified through the REMS program. Erica Chavis is currently working on the policy update for this policy. Thanks Erica!

Formulary Additions

Glucarpidase (Voraxaze®)
Indication: Methotrexate toxicity
Perampanel (Fycompa®)
Indication: Seizures
Meningococcal Group B Vaccine (Bexsero®)

Recent FDA Approvals

Medication	Approved Indication
Xospata (gilteritinib)	Relapsed or refractory acute myeloid leukemia
Motegrity (prucalopride)	Chronic idiopathic constipation
Cablivi (caplacizumab)	Adults with acquired thrombotic thrombocytopenic purpura (aTTP)
Egafen (triclabendazole)	Fascioliasis, a parasitic infestation caused by two species of flatworms or trematodes that mainly affect the liver, sometimes referred to as "liver flukes"

Staff Spotlight

Jennie Garland, PharmD

Jennie loves spending time with her golden doodle, Theodore. She loves food, including Chick-fil-A, sushi, veal piccata, and chicken ranch pizza. If Jennie could change one thing about the world, it would be to make calories not count. In her spare time, Jennie is involved with her church and sings with the worship team. She loves working at OLOL because she is able to work creatively to come up with solutions to problems, and because she is able to wear scrubs, of course. Thanks for being a part of our team, Jennie!

Haley Smith, PharmD

Haley is originally from Richland, Mississippi, but moved to Baton Rouge after completing her PGY1 residency in Shreveport, Louisiana. Family and friends are what is most important to Haley. When she's not at work, you can find her cuddling with her dogs: Bella and Booker or watching her husband, Matt, play video games. She cannot leave home without a full face of makeup and her guilty pleasure is going to drag shows. You can find Haley on the 5th floor of the HVI tower rounding with the SICU and NCCU teams. Thanks for all you do, Haley!

Drug Shortages

- Emergency syringes (dextrose 50%, sodium bicarbonate, 8.4% 50mEq/50mL, epinephrine 1mg/10mL)
- Ampicillin/sulbactam 1.5g & 3g inj
- Cefazolin 1 g inj
- Fluconazole 400mg/200mL & 200mg/100mL IVPB
- Please follow-up on biweekly emails from Brian for a complete list critical drug shortages

Patient Safety Corner

IMSP Best Practice

Ensure all antidotes, reversal agents, and rescue agents are readily available in your area. Review directions for use/administration in case of an emergency event.

Rationale

- This practice ensures the agent is readily available and administered without delay
- Adverse effects can occur not only with overdose, but with appropriate administration (e.g. iron dextran)
- Examples of antidotes and reversal agents include epinephrine, naloxone, flumazenil, and lipid emulsions

Did you know?

Did you know 1 in every 1,000 hospital medications orders is associated with selecting the wrong drug while prescribing, transcribing, dispensing, or administering? Evaluations of drug naming are conducted and guided by specified criteria including the naming not conflicting, misleading, or being confused with other drug names, though drug companies are NOT required to test or evaluate their proposed names. When inputting a verbal or telephone order, be sure to repeat the order details back to the provider to ensure accuracy and safety for our patients.

If you see something, say something

Remember to document any medication-related or other safety events you encounter in Quantros Safety & Feedback Reporting. Tracking these events provides data that helps us make changes to prevent future errors and keep our patients safe!

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