TOOLS FOR PRACTICE #388 | April 28, 2025

TOOLS FOR PRACTICE

PEER PATIENTS EXPERIENCE EVIDENCE RESEARCH

Stop the Drip: Tranexamic Acid Solution for Nosebleeds

CLINICAL QUESTION

Can topical tranexamic acid treat epistaxis?

BOTTOM LINE

Tranexamic acid intravenous solution applied to a cotton pledget increases the proportion of patients who stop bleeding within 10 minutes from 55% (saline) to 82%. Based on 1 randomized controlled trial (RCT), tranexamic acid may be better than vasoconstrictors (ie. phenylephrine-lidocaine) with 90% stopping bleeding at 10 minutes versus 14% (vasoconstrictors). However, efficacy of combining agents is unclear.

EVIDENCE

- Results statistically significant unless indicated.
- Reporting RCTs due to different comparators. RCTs mostly used 500-1000mg of 100mg/ml tranexamic acid (TXA).
- TXA alone; 2 RCTs versus saline.
    - RCT, 152 participants, 500-1000mg tranexamic-acid:[1]
        - Proportion of patients who stopped bleeding within 10 minutes: 82% (1000mg) versus 72% (500mg) versus 55% (saline). Statistically significant for 1000mg versus saline only (PEER calculation), Number Needed to treat (NNT)=4.

        - Proportion re-bleeding within 24 hours: 6% (1000mg) versus 10% (500mg) versus 29% (saline). (NNT)=5-6.
    - Other RCT, 90 participants: similar.[2]
- TXA versus vasoconstrictor; 1 RCT, 100 participants on ASA/clopidogrel.[3]
    - Mean bleeding time: 6.7 minutes versus 11.5 minutes (phenylephrine-lidocaine).
    - Stopped bleeding within 10 minutes: 90% versus 14% (phenylephrine-lidocaine), NNT=2.
    - Re-bleeding within 72 hours: 6% versus 20% (phenylephrine-lidocaine), NNT=8.
- TXA with phenylephrine-lidocaine versus phenylephrine-lidocaine; 1 RCT, 240 participants:[4]
    - Nasal packing: 50% versus 64% (phenylephrine-lidocaine alone), NNT=8.
    - Re-bleeding within 24 hours: 15% versus 30% (phenylephrine-lidocaine alone), NNT=7.
- TXA (200-400mg) after topical vasoconstrictor versus water; 1 RCT, 496 participants:[5]
    - Nasal packing (~42%), hospitalization (~45%): no difference
    - Limitations: Older patients (age~71) with co-morbidities, 65% on anti-coagulants, lower doses used.
- TXA versus nasal packing; RCTs showed equivalent[2] or superior to nasal packing.[6–8]
- Adverse events similar to placebo.[5]
- Limitations: No RCTs of TXA plus vasoconstrictor versus TXA alone, no RCTs in children.

CONTEXT

- Epistaxis chief complaint in 1/313 emergency room visits. ~20% resolve with external pressure.[9]
- Role of tranexamic acid not clearly outlined in guidelines.[10]
- Evidence supporting the efficacy of topical vasoconstrictors in epistaxis is limited even though commonly used.
- Cost 10mL ~$10,[11] IV solution applied cotton pledget prior to insertion into nostril.

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