

Chronic Subdural Hematoma and Tranexamic Acid

Chronic Subdural Hematoma (CSDH)

- Common condition occurring after head trauma
- Presentation:
 - o No symptoms to headache, seizures, decreased memory, and confusion
 - o Difficulty in speech, swallowing, and walking
 - o Weakness or numbness of arms, legs, and face
- Management:
 - o Surgical techniques: burr-hole evacuation or craniotomy
 - o Conservative treatment methods being studied:
 - Corticosteroids
 - Tranexamic acid

Tranexamic Acid (TXA)

- Hemostatic agent
- MOA: Displaces plasminogen from fibrin resulting in inhibition of fibrinolysis
- Used to reduce the hematoma volume following surgical intervention and to reduce recurrence
- Dose: 650 mg PO daily or 1000 mg IV daily
- Currently restricted to use as part of the mass transfusion protocol and use in orthopedic surgery undergoing hip or knee replacement
- CSDH is being recommended for addition to the restriction criteria at P&T in October; however, since it is not yet an approved restriction, use of TXA for CSDH follows the NF process.
- If an order for TXA is placed for this indication, the patient should be evaluated for the following contraindications prior to dispensing a dose:

Contraindications

Active thromboembolic disease	Thrombogenic cardiac rhythm disease
History of thrombosis or thromboembolism	Thrombogenic valvular disease
Hypercoagulopathy	Combination hormonal contraception

***If one of these contraindications is identified, a clinical pharmacist should be contacted for further evaluation.**

Exclusion criteria from the ongoing Tranexamic Acid in Chronic Subdural Hematomas (TRACS) study.

Acute subdural hematoma with no chronic component

Active thrombotic, thromboembolic or artheroembolic disease, including:

- Deep venous thrombosis within the last 6 months
- Cerebral thrombosis within the last 6 months
- Symptomatic carotid stenosis that did not undergo surgery
- Stroke (ischemic or hemorrhagic) within the last year
- Acute coronary syndrome within the last year

History of unprovoked DVT or idiopathic PE

Known hereditary thrombophilia including:

- Factor V Leiden
- Antithrombin III mutation
- Protein C deficiency
- Protein S deficiency

Atrial fibrillation (unless under successful rhythm control therapy)

Metallic heart valve

Vascular stenting procedure within the last year

Cardiac or vascular procedure within the last 6 months, including:

- Endarterectomy
- Bypass
- Angioplasty

Ongoing investigation for suspected malignancy

Confirmed active malignancy

Concomitant hormone therapy for malignancy

Concomitant use of a hormone contraceptive pill

Macroscopic hematuria

Known or suspected TXA allergy

Pregnancy or breastfeeding

References

1. Iliescu IA. Current diagnosis and treatment of chronic subdural haematomas. *J Med Life*. 2015;8(3):278-284.
2. Holl DC, Volovici V, Dirven CMF, et al. Pathophysiology and Nonsurgical Treatment of Chronic Subdural Hematoma: From Past to Present to Future. *World Neurosurgery*. 2018;116:402-411.
3. Iorio-Morin C, Blanchard J, Richer M, Mathieu D. Tranexamic Acid in Chronic Subdural Hematomas (TRACS): study protocol for a randomized controlled trial. *Trials*. 2016;17(1):235.
4. Yadav YR, Parihar V, Namdev H, Bajaj J. Chronic subdural hematoma. *Asian J Neurosurg*. 2016;11(4):330-342.