

Safety and Efficacy of Transexamic Acid in Treatment of Residual Subdural Hematoma After Bedside Twist -Drill Evacuation

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#### Introduction

Non-acute subdural hematomas (SDHs) are a cause of significant morbidity and mortality in our aging population. There are several options for treatment including observation, burr hole drainage at the bedside or in the operating room, and craniotomy. While there is no consensus concerning the best mode of treatment, there has been an increasing trend toward bedside procedures, especially for poor surgical candidates. Additionally, tranexamic acid (TXA), an antifibrinolytic agent, has been shown to resolve small chronic SDHs managed non-operatively. The purpose of this study was to examine the role of TXA as an adjunct to bedside evacuation of mixed density SDHs.

### Learning Objectives

Evaluate the role and safety of TXA after bedside SEPS procedure in the management of large mixed density subdural hematomas

Non contrast computerized tomography of patient with subdural hematoma at baseline (A), status post SEPS (B), and status post SEPS followed by treatment with TXA (C).

#### Methods

A retrospective chart review was conducted at NYU and Bellevue Hospital between March 2013 and November 2015. Fifty-one patients were included who underwent placement of a bedside Subdural Evacuating Port System (SEPS). Twenty-eight patients were subsequently treated with oral TXA (650mg daily). All CT images were analyzed by a surgeon blinded to patient identifiers. SDH dimensions were measured from the CT scans, and volumes were calculated using the "modified a x b x c/2" method 5.

# Results

Fifty one SDHs in 39 patients met the inclusion criteria. The majority of SDHs were mixed density. There was no statistically significant difference in gender, patient age, age of subdural, or history of coagulopathy between the two groups. The only statistically significant end point was percent difference in midline shift. No increase or recurrence of the SDH was noted during TXA treatment. Five(22.7%) patients in the non TXA group and 6(20.6%) patients in the SEPS followed by TXA group required further intervention. There were no thrombotic complications.

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## Conclusions

Oral TXA treatment does not increase complications and improves the percent change in midline shift in a statistically significant manner. Prospective studies are needed to further evaluate the role of TXA for adjunctive treatment of SDHs.

		Table 1:		
		SEPS alone	SEPS +TXA	Significance (P-value)
No. of Patients:		23	28	
Age (mean):		73.13	64.70	.079
Sex :	Male Female	16 7	23 5	0.235
Age of Subdural :	Chronic Subacute Mix	4 7 12	5 7 16	0.907
Coagulopathy:	Yes No	6 17	6 22	0.749
Percent difference	e in volume:	50.04	43.80	0.688
Percent difference	e in midline shift:	45.78	54.14	.022
Thrombotic Complications:	Yes No	4 19	2 26	.180
Additional Procedures:	Yes No	18 5	21 7	1.00

Table illustrating differences between SEPS alone and SEPS + TXA groups.