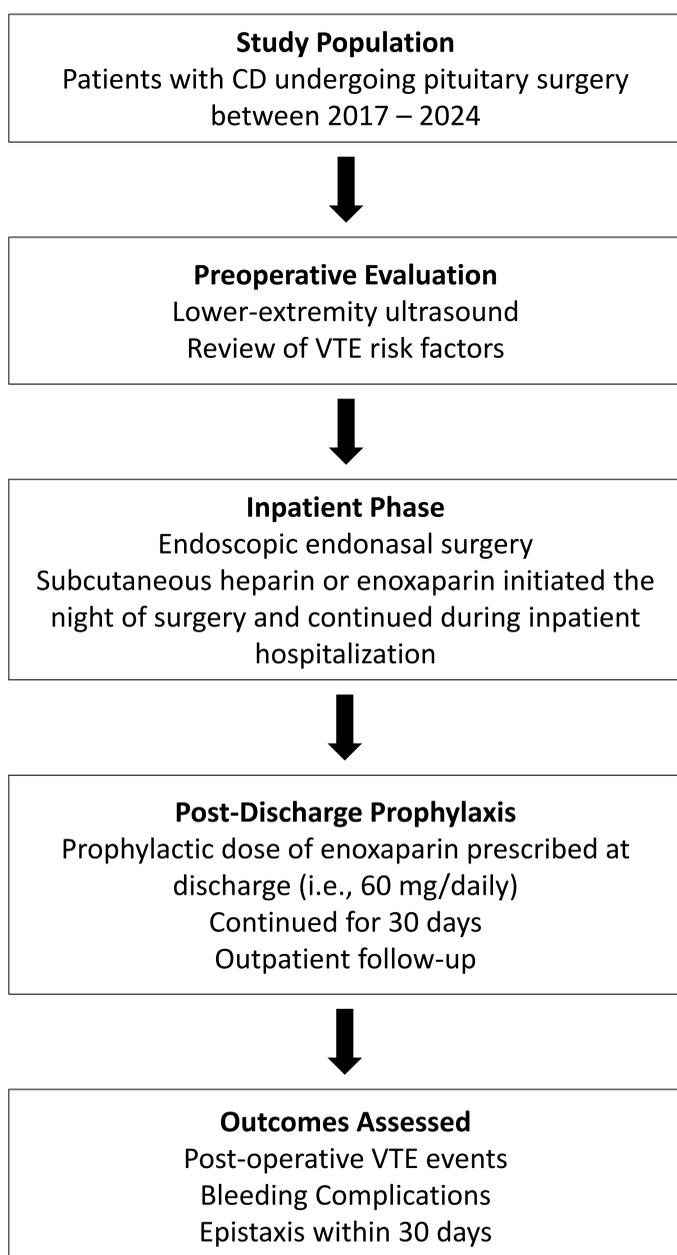


Introduction

- Cushing's Disease (CD) is associated with a persistent hypercoagulable state that may continue after surgical remission.
- Venous thromboembolism (VTE) events can occur 1-3 months after pituitary surgery and contribute to morbidity and mortality.^{1,2}
- Reported postoperative VTE rates in CD range from 2 to 3.4%, but optimal prophylaxis strategies remain poorly defined.^{1,3,4}
- Our study evaluates the effectiveness and safety of a standardized VTE prophylaxis protocol following endoscopic endonasal pituitary surgery.**

Methods

Figure 1. VTE Prophylaxis Protocol



- Retrospective cohort study of patients with Cushing's Disease undergoing pituitary surgery between 2017 and 2024
- Patients were managed using the standardized VTE prophylaxis protocol (Figure 1)
- Demographic, clinical, and perioperative variables were abstracted from the electronic health record
- Outcomes included postoperative VTE events and complications.

Results

Table 1. Baseline Characteristics

Characteristics	Study Cohort (N=80)
Age, median (IQR), years	43 (31 – 54)
Female sex	64 (80%)
Body mass index, median (IQR), kg/m ²	36 (32 – 42)
Prior history of VTE	6 (7.6%)
Pre-operative anticoagulant use	7 (8.9%)
Pre-op lower extremity (LE) ultrasound	61 (78%)
Positive LE ultrasound	0 (0%)
Transcavernous approach and/or medial cavernous wall resection	18 (23%)
Single dose post-op desmopressin	21 (27%)
Hospital Length of stay, median (IQR), days	3 (3 – 4)

Table 2. VTE Prophylaxis and Postoperative Outcomes

Outcomes	n (%)
Inpatient chemoprophylaxis	79 (98.7%)
Discharged on enoxaparin	70 (89%)
Any postoperative VTE	3 (3.8%)
Pulmonary Embolism	1 (1.3%)
Peripheral catheter-associated upper extremity VTE	2 (2.5%)
VTE within 30 days of discharge	0 (0%)
Intracranial hemorrhages	0 (0%)
Epistaxis* within 30 days	4 (5.0%)

* Epistaxis defined as bleeding requiring interventions (i.e., packing, cautery, emergency department visit, or the operating room).

Discussion

- A standard VTE prophylaxis protocol was associated **with low postoperative VTE rates** in the high-risk CD population.
- No intracranial or sellar hemorrhages occurred**
- Minor epistaxis events **were infrequent and self-limited**, supporting the overall safety of the protocol
- Routine pre-operative lower extremity ultrasound screening did not identify occult deep vein thrombosis, and its clinical utility in this setting remains uncertain.

Conclusions

In patients with Cushing's disease undergoing pituitary surgery, extended VTE prophylaxis can be safely implemented with low thrombotic risk and minimal bleeding complications. No post-discharge VTE events or intracranial hemorrhages were observed. **Future studies are needed to refine optimal duration and patient selection for VTE prophylaxis in Cushing's disease.**

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