Amit Elia – Milestone 1

Monday, July 21, 2025 5:06 PM

Retrospective Evaluation of Post-Surgical DVT and PE Recurrence in Patients Treated with Enoxaparin

Motivation

Enoxaparin (Lovenox) is a blood thinner commonly used to prevent deep vein thrombosis (DVT) and pulmonary embolism (PE), especially after major surgeries like orthopedic and abdominal procedures. It's part of standard post-op care for patients who are at high risk of clot formation due to reduced mobility or tissue trauma from surgery.

Beyond surgical settings, Enoxaparin is also used in high-risk medical patients during hospital stays in people with conditions like pneumonia or heart failure who are immobile for several days. It's also used in cardiac care where it helps prevent clot-related complications. Another important use is in pregnancy. Unlike warfarin, it's safe for pregnant individuals and often used for those with a history of blood clots or known clotting disorders. In cancer patients, it's preferred for both prevention and treatment of thrombosis because of its lower interaction risk and relatively stable effect.

Overall, Enoxaparin is a pretty versatile anticoagulant. It's reliable, effective, and used across a wide range of patient populations.

Here, I propose a retrospective study on the effectiveness of Enoxaparin in preventing the occurrence of two main types of **Venous Thromboembolism (VTE)**:

- Deep Vein Thrombosis (DVT)
- Pulmonary Embolism (PE)

Cohort Definition

Cohort Definition #332

Cohort Entry:

1. *Major Orthopedic Procedures 01 – concept set (#430)*
    a. Arthroplasty, acetabular and proximal femoral (hip replacement)
    b. Arthroplasty, knee, condyle and plateau (knee replacement)
    c. Open treatment of femoral fracture
    d. Arthrodesis (Spinal fusion)
2. *Major Abdominal Procedures 01 – concept set (#431)*
    a. Radical prostatectomy
    b. Partial resection of colon (with descendants)
    c. Partial hepatectomy
    d. Pancreatectomy
    e. Oophorectomy
    f. Laparoscopic hysterectomy
    - Medical Hospitalization with Reduced Mobility #483 (Hospitalization time >= 2 days)
        a. Pneumonia
        b. Congestive heart failure
        c. Sepsis

Inclusion Criteria:

1. Enoxaparin_Lovenox - Concept Set #433
2. DVT and PE - Concept Set #434

Cohort Exit:

1. 30 days post surgery date
2. Death

Table 1

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Step 3:

Of the patients in your cohort, how many received the drug. Generate a Table 1 for the subset of your cohort who received the drug.

Bonus:

Complete the analysis by extracting the outcome of interest and drawing a statistical conclusion about the effectiveness of the drug. If there are not enough patients in the cohort, verify by completing a statistical power analysis.

Deliverable:

Create a page in the Project Milestone 1 Submissions section of this notebook, and summarize your work.

Component	Your Score	Albert Score	Points	Additional Justification (if needed)	Comments from Albert
There is a page in Project Milestone 1 Submissions of this notebook, and it includes a project title and your name.			1		
The page adequately describe the purpose of your study.			3		
The page adequately describe the cohort definition.			3		
The page includes a table 1 for the cohort within UCSF			3		
Bonus – The page includes the results from completing the bonus.			5		
Total			10		