



Evaluation of VTE Prophylaxis with Immunomodulatory Drug Use in Patients with Multiple Myeloma at a Community Teaching Hospital

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BACKGROUND

- Thalidomide and its derivatives lenalidomide and pomalidomide are immunomodulatory drugs (IMiDs) used in the primary treatment of multiple myeloma often in combination with dexamethasone and a proteasome inhibitor.
- NCCN guidelines recommend venous thromboembolism (VTE) prophylaxis based on risk stratification using SAVED and IMPEDE VTE scores.
- Guidelines changed in 2020, and it is unknown if these new recommendations have been integrated into practice.

OBJECTIVES

- Determine the percent of patients with multiple myeloma who received IMiD therapy with appropriate concurrent VTE prophylaxis.
- Determine the percent of patients with multiple myeloma who experienced a VTE while receiving IMiD therapy.

METHODS

Study Design:

- Retrospective chart review

Data Source:

- Epic/Electronic medical record

Study Population:

- Adults aged 18 years old or older who were diagnosed with multiple myeloma and received IMiD therapy through Mercy Oncology (St. Louis)

Study Measures: *SAVED Score for Patients Treated with IMiDs:*

Variable	Point Score
Surgery within 90 days	+2
Asian race	-3
VTE history	+3
Age ≥80 years	+1
Dexamethasone dose: Standard: 120-160 mg/cycle High: >160 mg/cycle	+1 +2

Low risk <2 points High risk ≥2 points

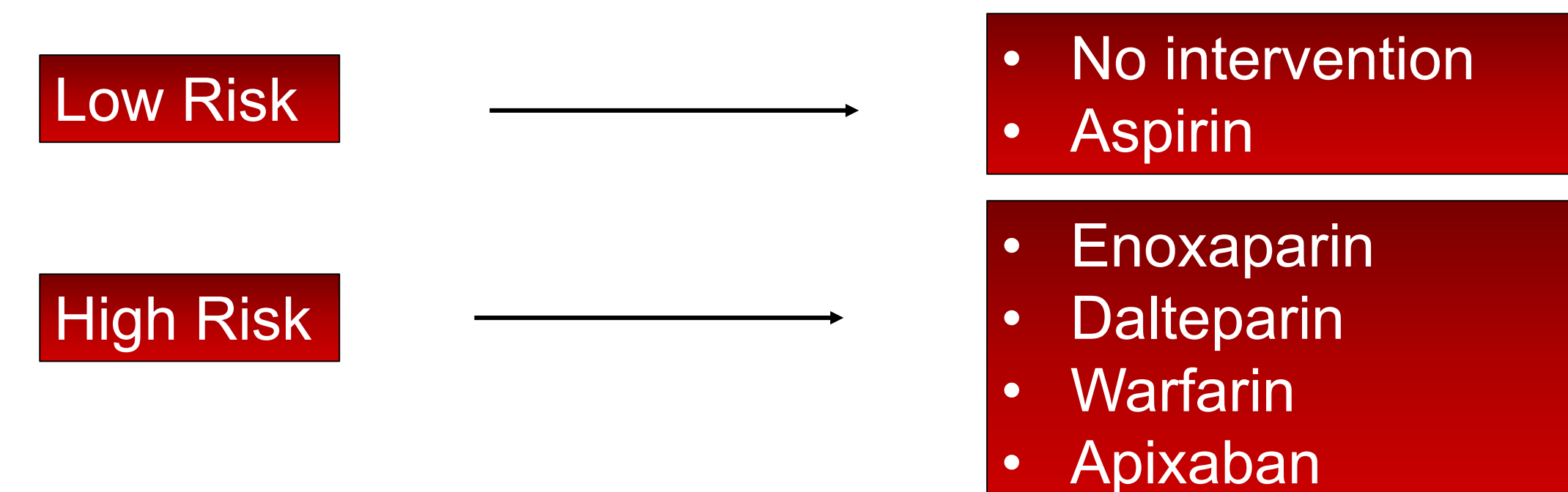
METHODS

Study Measures: *IMPEDE VTE Score:*

Variable	Point Score
IMiD therapy	+4
BMI >25 kg/m ²	+1
Pelvic, hip, or femur fracture	+4
Erythropoiesis stimulating agent	+1
Dexamethasone dose: Low: ≤160 mg/month High: >160 mg/month	+2 +4
Doxorubicin use	+3
Ethnicity/race = Asian or Pacific Islander	-3
VTE history	+5
Tunneled line or CVC	+2
Prophylactic LMWH or warfarin	-4
Therapeutic LMWH or warfarin	-3

Low risk ≤3 points High risk >3 points

Recommended Prophylaxis Options:

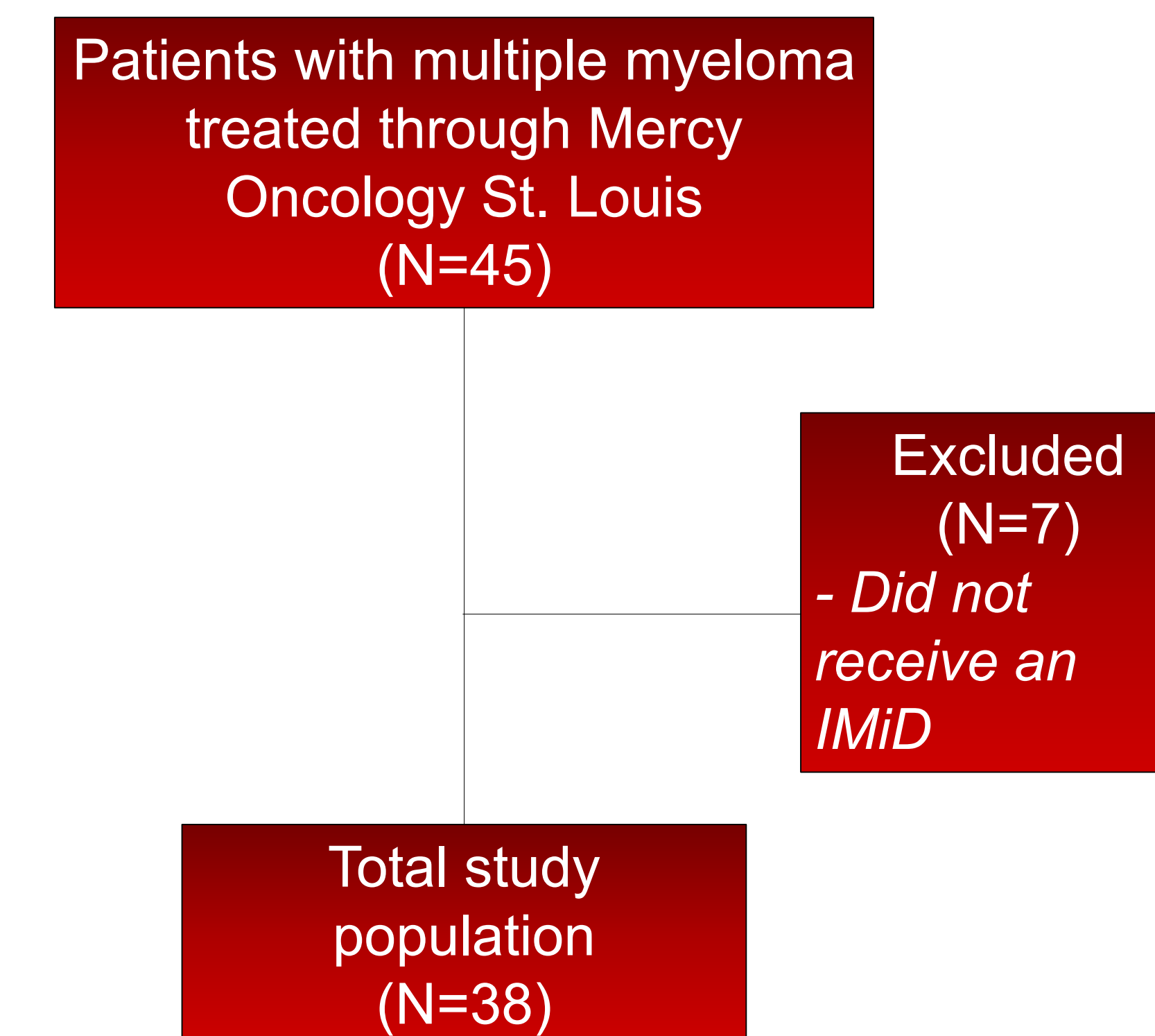


Analytical Strategy:

- SAVED and IMPEDE VTE scores were calculated for each subject and used to classify as low or high risk, then determine recommended prophylaxis
 - Recommended prophylaxis was compared to actual prophylaxis received= "appropriateness"
- Descriptive statistics including percentages, means, and medians were used to evaluate the rates of appropriate prophylaxis using both SAVED and IMPEDE VTE scoring

RESULTS

Study Population Flowchart:



Efficacy/Safety Results:

- 11%** (4/38) of patients who received an IMiD experienced a VTE
- 0%** of patients experienced a major bleed with prophylaxis per Epic records

SAVED Score Results:

Mean score	1.3
Median score	1
Standard deviation	1.09
Low risk patients	29 (76%)
High risk patients	9 (24%)
Overall – patients receiving appropriate prophylaxis	32 (84%)
Low risk – patients receiving appropriate prophylaxis	29 (100%)
High risk – patients receiving appropriate prophylaxis	3 (33%)
Patients who experienced a VTE receiving appropriate prophylaxis	3 (75%)

RESULTS

IMPEDE VTE Score Results:

Mean score	7.2
Median score	7
Standard deviation	2.75
Low risk patients	2 (5%)
High risk patients	36 (95%)
Overall – patients receiving appropriate prophylaxis	8 (21%)
Low risk – patients receiving appropriate prophylaxis	2 (100%)
High risk – patients receiving appropriate prophylaxis	6 (17%)
Patients who experienced a VTE receiving appropriate prophylaxis	2 (50%)

Risk Factors of Patients Experiencing VTE:

Subject #5	BMI >25 kg/m ² ; age ≥80 years; low-dose dexamethasone
Subject #13	BMI >25 kg/m ² ; ESA; CVC; low-dose dexamethasone
Subject #18	BMI >25 kg/m ² ; low-dose dexamethasone
Subject #22	Low-dose dexamethasone

CONCLUSION

- Low rates of appropriate VTE prophylaxis suggest that practice patterns at Mercy St. Louis hospital have not adapted to new NCCN recommendations
- There is a large discrepancy in risk stratification as well as rates of appropriate prophylaxis when comparing SAVED and IMPEDE VTE tools
- Low-dose dexamethasone was a risk factor present in all patients who experienced a VTE