



The Application of the ThroLy Risk Assessment Model to Predict Venous Thromboembolism in Patients with Diffuse Large B-Cell Lymphoma

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Background & Objective

Patients with aggressive lymphomas are at higher risk for venous thromboembolism (VTE).

ThroLy is a risk assessment model (RAM) derived to predict the occurrence of VTE in various types of lymphomas.

In this study, we assess the clinical application of ThroLy RAM in a unified group of patients with diffuse large B-cell lymphoma (DLBCL).

Materials & Methods

A **retrospective** study. Items in the ThroLy RAM, including prior VTE, reduced mobility, obesity, extranodal disease, mediastinal involvement, neutropenia and hemoglobin <10.0 g/dL, were retrospectively reviewed for patients with DLBCL who developped VTE. Hospital databases were searched for patients with **DLBL and radiologically-confirmed VTE**.

Results

A total of 524 patients were included. Patients had **high disease burden**; 57.3% with stage III/IV and 34.0% with bulky disease. All were treated on unified guidelines; 63 (12.0%) had primary refractory disease. (Table 1)

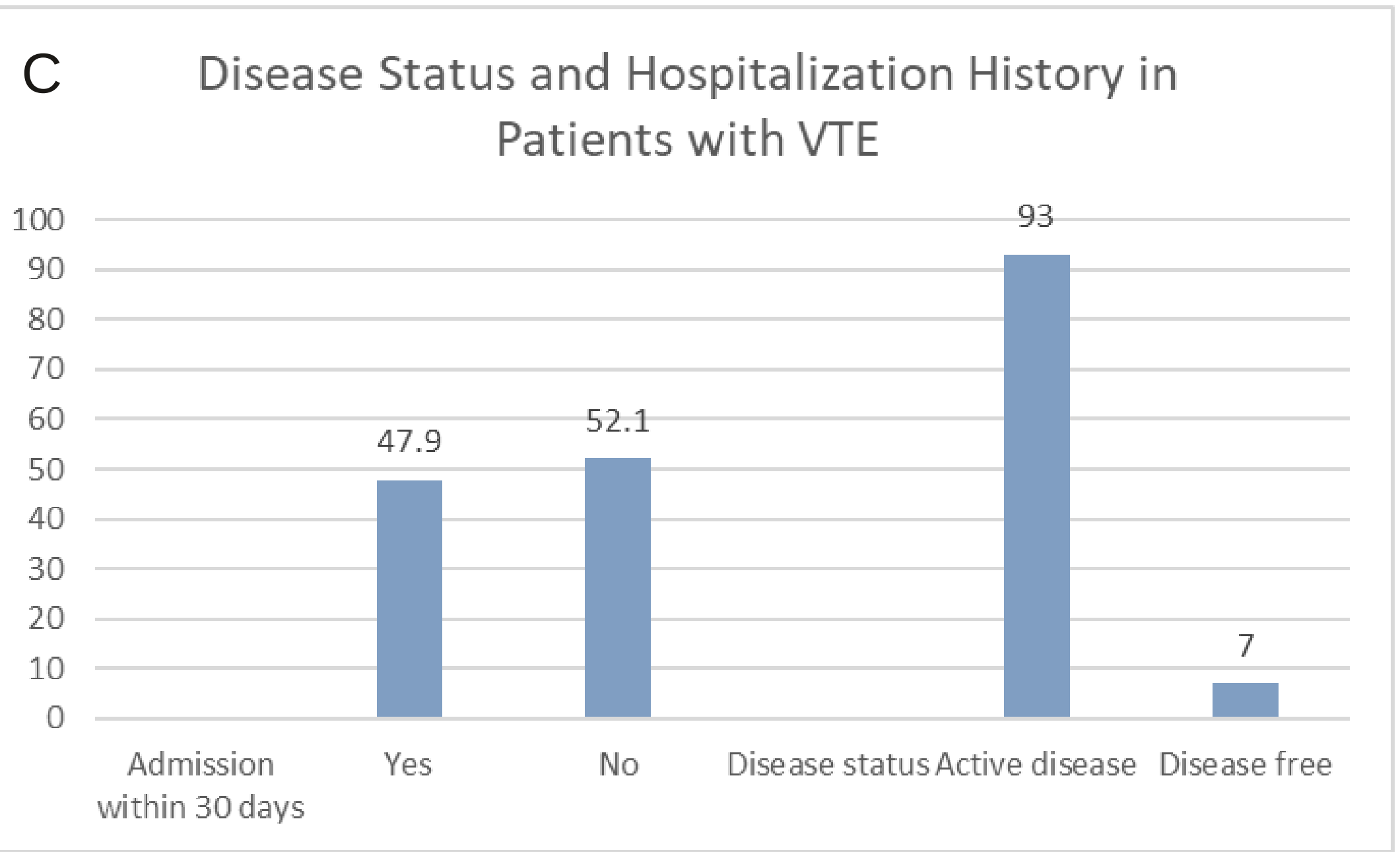
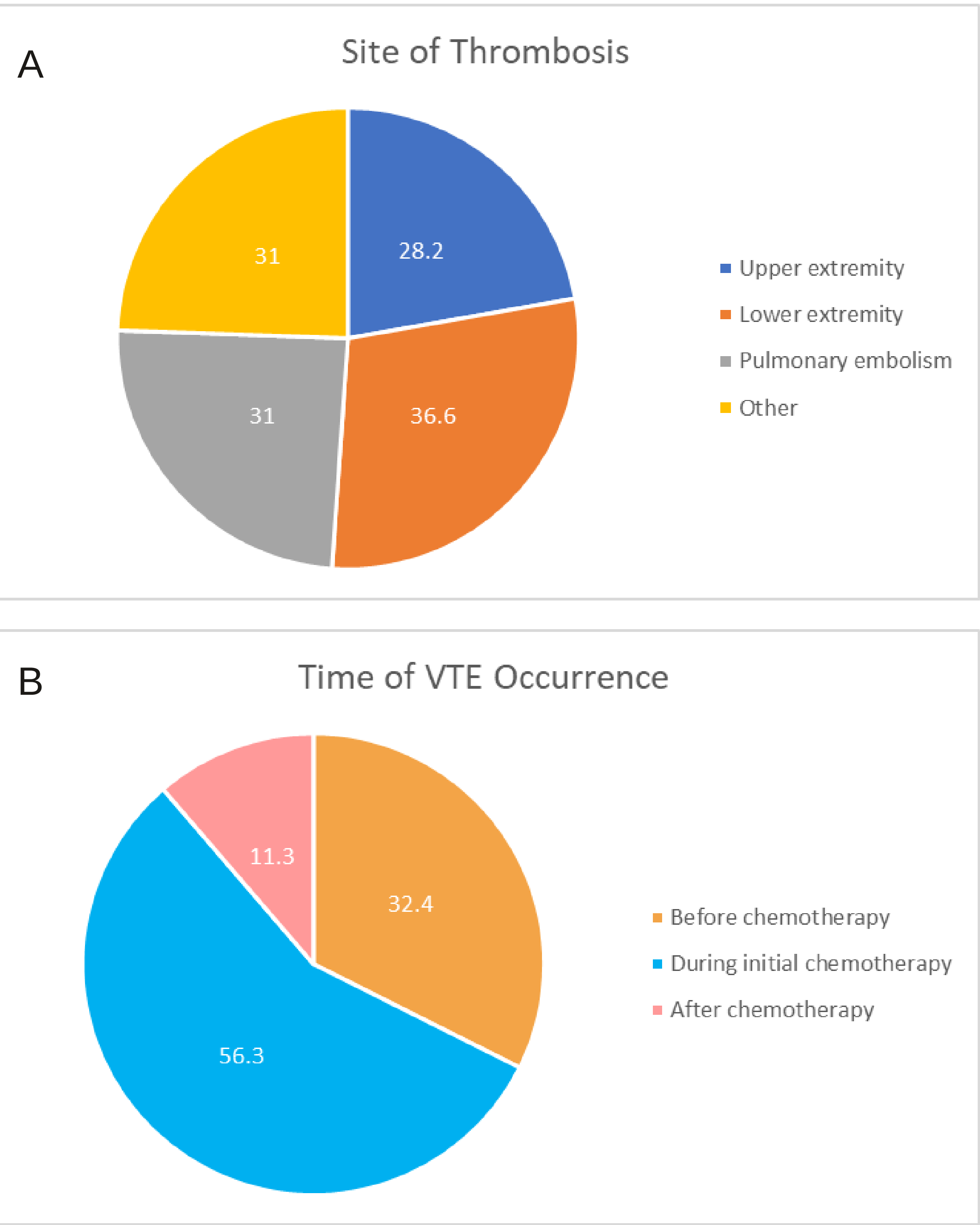
VTE events were reported in 71 (13.5%) patients. Among 121 patients with high (>3) ThroLy score, 22.3% developed VTE compared to 8.4% and 12.4% in those with low and intermediate risk scores, respectively (P=0.014). (Figure 1)

Simplifying the ThroLy model into two risk groups; high-risk (score ≥3) and low risk (score <3) can still segregate patients; VTE developed in 44 (17.2%) high-risk patients (n=256) compared to 27 (10.1%) in the low-risk group (n=268), p=0.038. **Neutropenia was encountered in only 14 (2.7%) patients.** (Table 1)

Table 1: Patients Characteristics

Characteristics		Number	Percentage
Age (Years)		Median: 49	
		Range: 18-90	
Gender	Female	250	47.7
	Male	274	52.3
Disease stage	I-II	224	42.7
	III- IV	300	57.3
Smoking	Active smoker	139	26.5
	Prior-smoker	65	12.4
	Never smoked	314	60
	Unknown	6	1.1
BMI (kg/m ²)	≤30	358	68.3
	>30	161	30.7
LDH	Low	226	43.1
	High	291	55.5
ECOG Performance Status (PS)	0 or 1	439	83.8
	2	43	8.2
	3 or 4	42	8
Hemoglobin (g/L)	<100	57	10.9
	≥100	466	88.9
Response to Treatment	Complete Response (CR)	402	76.7
	Partial Response (PR)	38	7.3
	Disease Progression (DP)	63	12
	NA	12	2.3
History of VTE		45	8.6
Neutropenia (ANC<1000)		14	2.7
Extranodal localization		350	66.8
Mediastinal involvement		207	39.5
Bulky Disease		178	34
Salvage chemotherapy		86	16.4

Figure 1: Characteristics in Patients with VTE



Summary

ThroLy RAM can identify patients with DLBL at high risk for VTE. This model can be modified by dividing patients into two, rather than three risk groups, and further simplified by omitting neutropenia.

References

A comprehensive list of references is available upon request

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