

High Specificity but Limited Sensitivity: Is The Khorana Score Sufficient as a Stand-Alone tool to guide Thromboprophylaxis in Contemporary Oncological Practice

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INTRODUCTION

- Cancer-associated venous thromboembolism (VTE) is a major cause of morbidity and mortality in patients with cancer.
- The **Khorana Score (KS)** is the most widely used clinical risk assessment model to identify ambulatory patients with cancer who may benefit from primary thromboprophylaxis.
- Although recommended by international guidelines, the Khorana Score has demonstrated limited sensitivity in clinical practice, with many thrombotic events occurring in patients classified as low or intermediate risk.
- As cancer treatment continues to evolve with immunotherapy and targeted therapies, the real-world performance of the Khorana Score requires ongoing evaluation.

METHOD

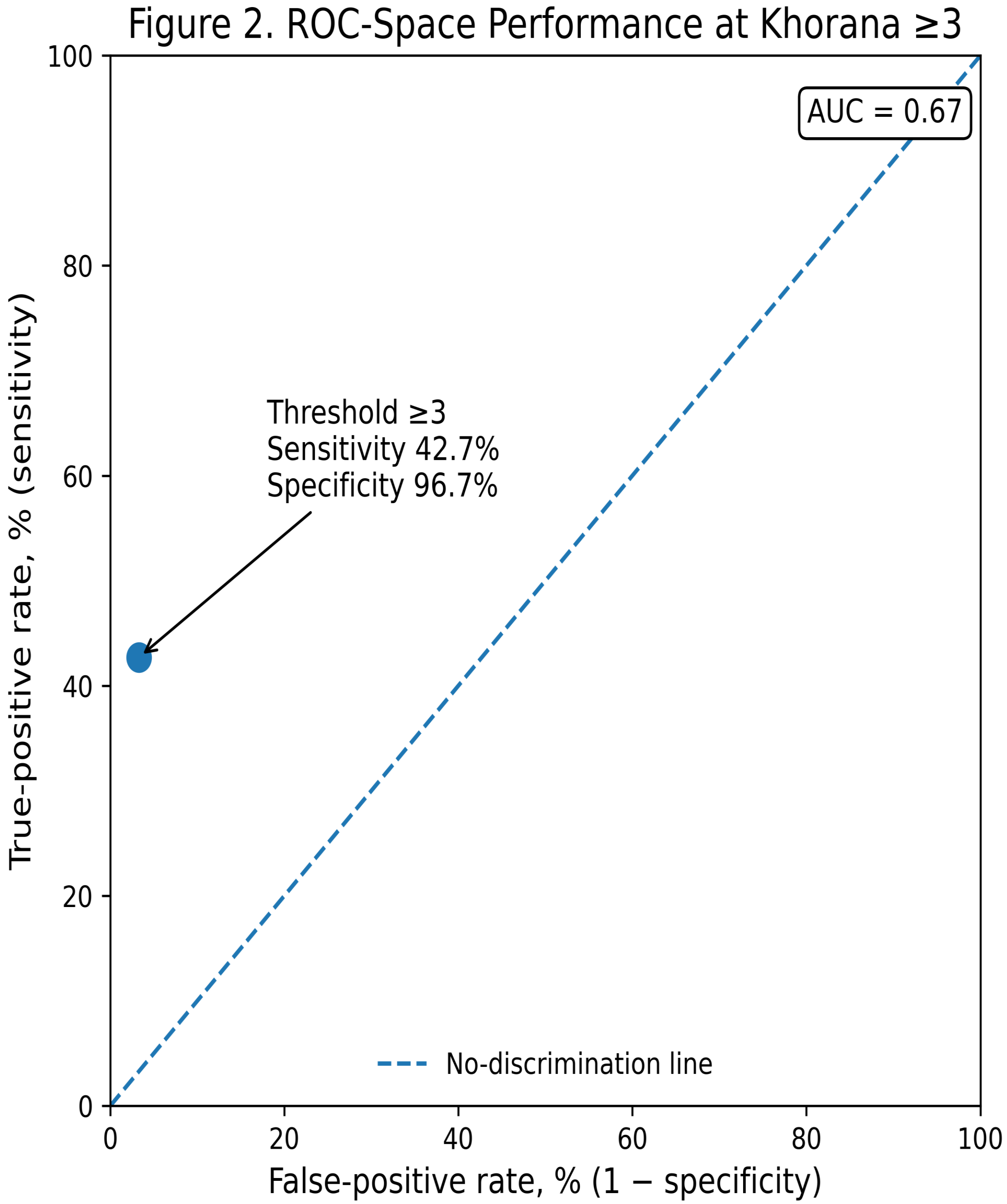
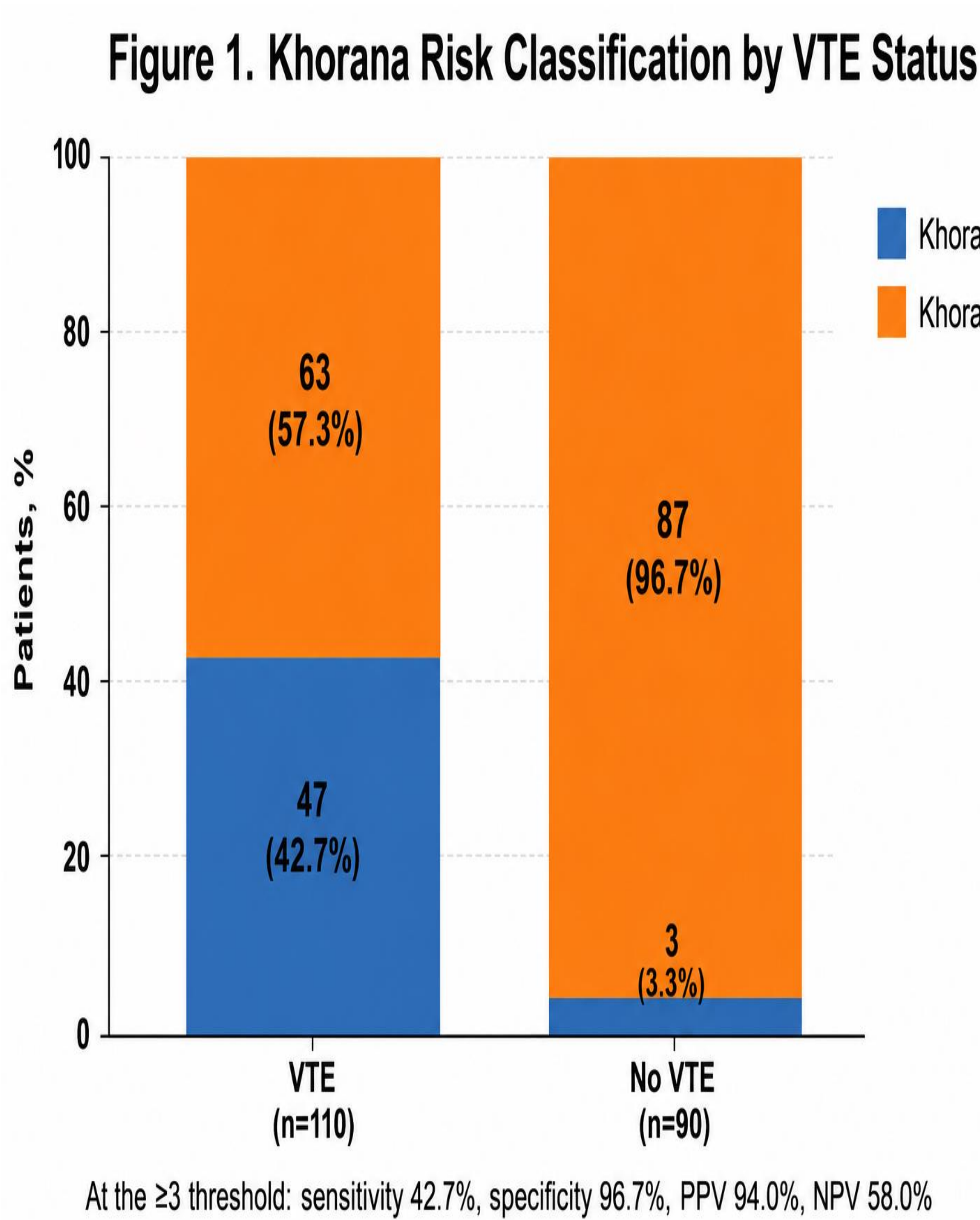
- Study Design:** Retrospective case-control study
- Single tertiary community cancer centre : 200 adults with solid tumours -110 VTE and 90 controls
- Khorana Score calculated using baseline clinical and laboratory parameters at cancer diagnosis and initiation of systemic therapy
- Statistical Analysis:** Sensitivity , Specificity ,Positive predictive value (PPV) ,Negative predictive value (NPV) , Odds ratio (OR) Receiver operating characteristic (ROC) analysis, Exploratory subgroup analysis by tumour type and disease stage

CONCLUSIONS

- The Khorana Score is an effective tool for identifying patients at very high risk of cancer-associated VTE; however, many thrombotic events occur in patients below the conventional high-risk threshold.
- Reliance on the Khorana Score alone may result in missed opportunities for thromboprophylaxis in patients at clinically significant risk. Our findings highlight the persistent gap between thrombotic risk prediction and real-world prophylaxis decisions and suggest that tumor-specific factors and disease burden may enhance current models
- Thromboprophylaxis decisions should be individualized and incorporate tumour biology, disease burden, treatment-related factors, and bleeding risk in addition to the Khorana Score.

RESULTS

- Median Khorana Score was higher in patients with VTE than controls (**2 vs 1; p < 0.001**)
- High-risk Khorana Score (≥ 3)
47/110 VTE patients
3/90 controls
- Diagnostic performance:
Sensitivity: **42.7%**
Specificity: **96.7%**
PPV: **94.0%**
NPV: **58.0%**
AUC: **0.67**
- High-risk Khorana Score strongly predicted VTE **OR 21.6 (95% CI 6.44–72.65; p < 0.000001)**
- 64.5%** of thrombotic events occurred within 4 months of cancer diagnosis
- 57.3%** of VTE events occurred in patients with Khorana Score < 3
- Genitourinary cancers were independently associated with VTE **OR 6.14 (95% CI 1.54–24.46; p = 0.009)**



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