

# CT SCREENING FOR OCCULT CANCER IN PATIENTS WITH UNPROVOKED VTE

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## INTRODUCTION

- Venous thromboembolism (VTE) refers to deep vein thrombosis (DVT) and pulmonary embolism (PE)
- It has an estimated incidence of 1-2 per 1000 persons annually [1]
- An unprovoked VTE may be an early sign of cancer [2]
- Current evidence suggests that the prevalence of occult malignancy in a first unprovoked VTE is low and therefore there is no clinical benefit to routine CT screening [3]

## AIMS

- To evaluate whether patients with unprovoked VTEs are being investigated appropriately with CT imaging
- To assess the incidence of malignancy detected in CT imaging in patients with unprovoked VTE who present with signs/symptoms of malignancy

### NICE guidelines for management of unprovoked VTE (2020) [4]:

- Review medical history, baseline bloods and physical examination
- Do NOT offer further investigations for cancer unless patient has relevant clinical symptoms or signs

## METHODS

- Retrospective data collection
- Patients identified using Soliton for any CT imaging performed with keywords 'unprovoked', 'VTE', 'PE', or 'DVT' in requests
- **Cycle 1:** data collected in pre-COVID pandemic (5 months), 55 patients included
- **Intervention:** findings from Cycle 1 was presented at the local Radiology meeting
- Highlighted the need for increased scrutiny of CT scan requests and clearer documentation of clinical signs/symptoms of malignancy from requesting clinicians
- **Cycle 2:** data collected from Jan to Sep 2022 (9 months), 50 patients included

## DISCUSSION & CONCLUSION

- There is marked improvement in the use of CT screening for occult malignancy in unprovoked VTE following initial intervention (72% now versus 18.2% previously)
- There is significantly improved documentation of clinical signs/symptoms of malignancy which warrants further investigation with CT screening
- More rigorous vetting of CT requests has resulted in a higher cancer detection rate as majority of patients being scanned have presented with malignancy symptoms
- The radiology department should continue to scrutinise CT requests for unprovoked VTE

## REFERENCES

1. Scheres, L.J., Lijfering, W.M. and Cannegieter, S.C. (2018) "Current and future burden of venous thrombosis: Not simply predictable," *Research and Practice in Thrombosis and Haemostasis*, 2(2), pp. 199-208. Available at: <https://doi.org/10.1002/rth2.12101>.
2. Sorensen, H.T. et al. (1998) "The risk of a diagnosis of cancer after primary deep venous thrombosis or pulmonary embolism," *New England Journal of Medicine*, 338(17), pp. 1169-1173. Available at: <https://doi.org/10.1056/nejm199804233381701>.
3. Carrier, M., Lazo-Langner, A. and Shivakumar, S. (2015) "Screening for occult cancer in unprovoked venous thromboembolism," *Journal of Vascular Surgery*, 62(6), p. 1679. Available at: <https://doi.org/10.1016/j.jvs.2015.10.021>.
4. Recommendations: Venous thromboembolic diseases: Diagnosis, management and thrombophilia testing: Guidance (no date) NICE. Available at: <https://www.nice.org.uk/guidance/ng158/chapter/Recommendations#investigations-for-cancer> (Accessed: December 6, 2022).

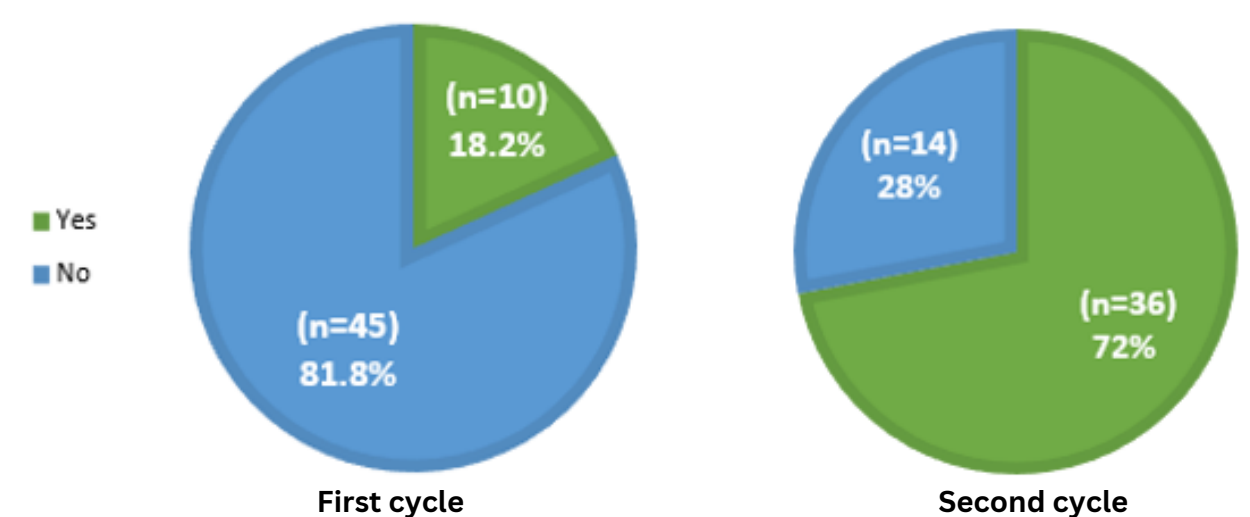
## RESULTS

- Findings from the first cycle showed that 81.8% of patients who had CT imaging did not present with signs/symptoms of malignancy
- Following intervention, there was an improvement with only 28% of patients with CT imaging who did not present with signs/symptoms of malignancy
- In the first cycle, only 3.6% of patients were found to have a malignancy on CT scanning
- In the second cycle, 10% of patients were found to have a malignancy on CT scanning

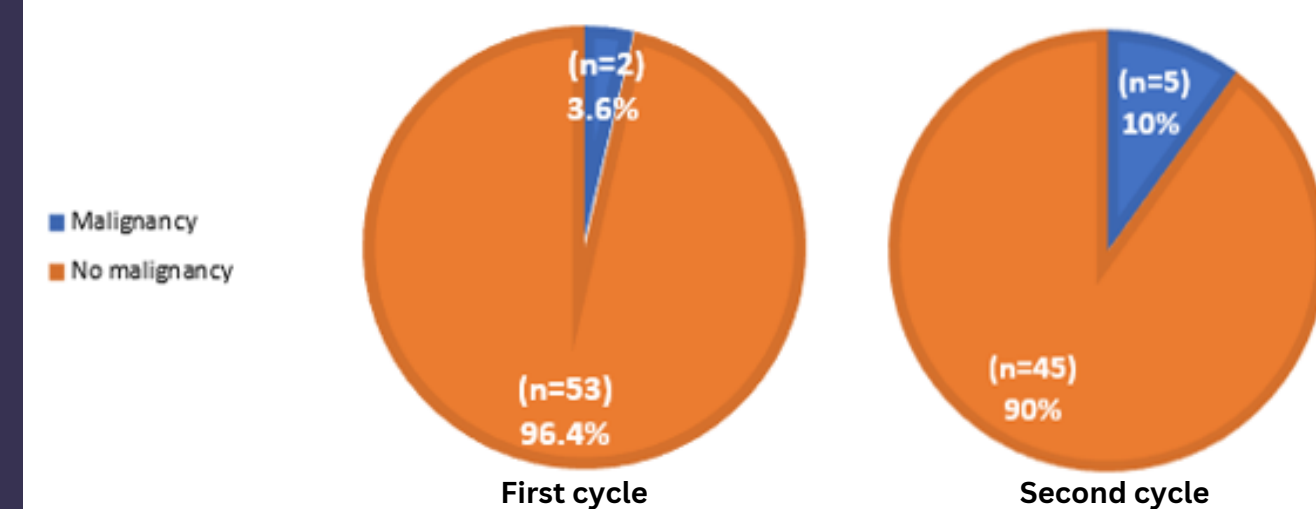
### Examples of signs/symptoms of malignancy on requests:

Weight loss  
Change in bowel habit  
Cough/haemoptysis  
Lethargy, anaemia  
Breast symptoms  
Suspicious CXR

### Presence of signs/symptoms of malignancy



### Presence of malignancy on CT imaging



## REFERENCES

1. Scheres, L.J., Lijfering, W.M. and Cannegieter, S.C. (2018) "Current and future burden of venous thrombosis: Not simply predictable," *Research and Practice in Thrombosis and Haemostasis*, 2(2), pp. 199-208. Available at: <https://doi.org/10.1002/rth2.12101>.
2. Sorensen, H.T. et al. (1998) "The risk of a diagnosis of cancer after primary deep venous thrombosis or pulmonary embolism," *New England Journal of Medicine*, 338(17), pp. 1169-1173. Available at: <https://doi.org/10.1056/nejm199804233381701>.
3. Carrier, M., Lazo-Langner, A. and Shivakumar, S. (2015) "Screening for occult cancer in unprovoked venous thromboembolism," *Journal of Vascular Surgery*, 62(6), p. 1679. Available at: <https://doi.org/10.1016/j.jvs.2015.10.021>.
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