

Risk and Prognosis of Cancer after Lower Limb Arterial Thrombosis

**Jens Sundbøll, Katalin Veres, Erzsébet Horváth-Puhó,
Kasper Adelborg, Henrik Toft Sørensen**

Department of Clinical Epidemiology, Aarhus University
Hospital, Denmark



Disclosure statement

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- **Conflicts of interest**

- No relationships to disclose



Background

- Lower limb arterial thrombosis
≈1.5 per 10,000 person-years¹
- Deep venous thrombosis
≈5–10 per 10,000 person-years²

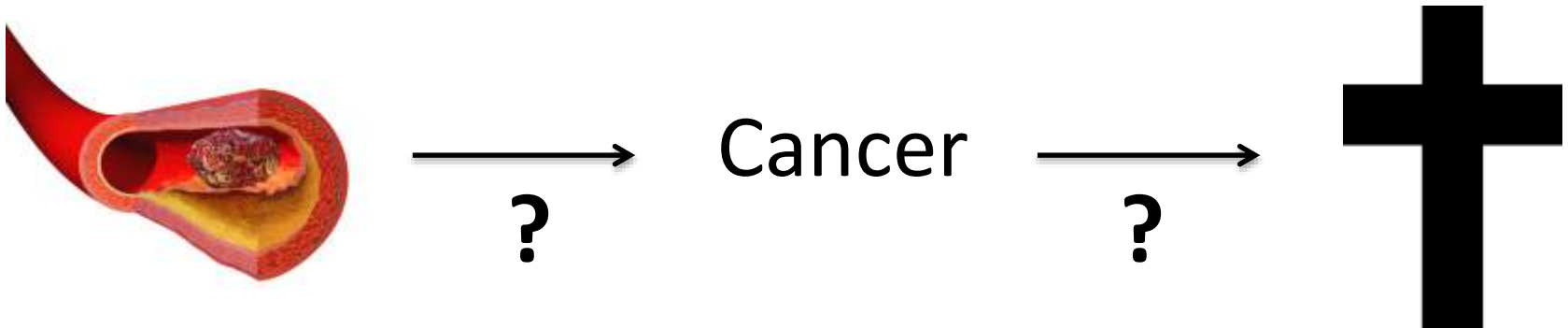
¹*N Engl J Med* 2012;366:2198-206

²*J Thromb Thrombolysis*. 2016;41:3–14.



Background

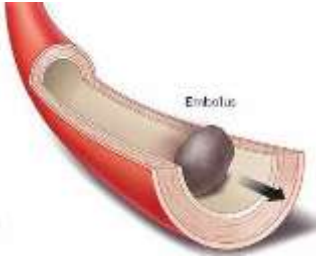
- VTE → cancer risk↑¹
- VTE → cancer mortality↑²



¹*N Engl J Med* 1998;338:1169-73

²*N Engl J Med* 2000;343:1846-50

Mechanisms



- Embolization



- Prothrombotic state



- Compression of the vascular wall



Aims

Examine the risk of cancer overall and of site-specific cancers after a diagnosis of lower limb arterial thrombosis

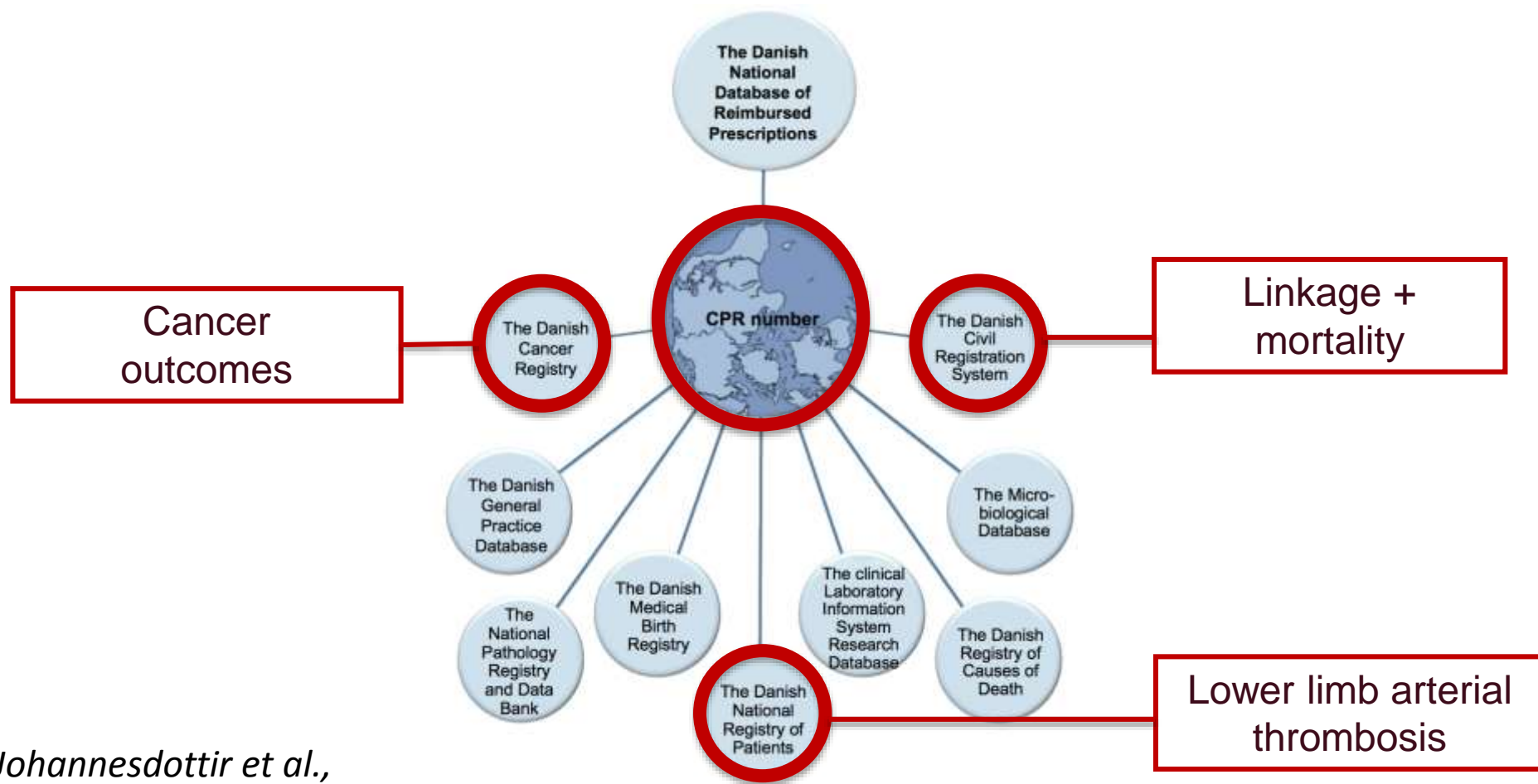
Assess the prognostic impact of previous lower limb arterial thrombosis on all-cause mortality after common cancers.



Setting

- **Setting:** All Hospitals in Denmark
- **Design:** Nationwide population-based cohort study
- **Study period:** 1994 – 2013

Data sources



*Johannesdottir et al.,
Clin Epidemiol 2012*



Statistical analyses

Risk of cancer

- Standardized incidence ratios
- Follow-up until cancer diagnosis

Cancer mortality

- Kaplan-Meier estimator
- Cox regression analysis comparing with a matched cancer cohort without prior lower limb arterial thrombosis



Results

- 6600 patients with lower limb arterial thrombosis
 - 53% male
 - 53% ≥ 70 years
 - 48% moderate and 17% severe CCI level
- 772 incident cancers during 20 years of follow-up

Results

Risk of any cancer in patients with lower limb arterial thrombosis compared with the general population.

Follow-up interval	Incidence rate per 1000 person-years (95% CI)	Observed/Expected	Standardized incidence ratio (95% CI)
0–6 months	63.4 (53.7–73.1)	163/50	3.3 (2.8-3.8)
7–12 months	27.2 (20.4–34.0)	61/43	1.4 (1.1-1.8)
2–20 years	23.1 (21.2–25.0)	548/481	1.14 (1.1-1.2)



Results

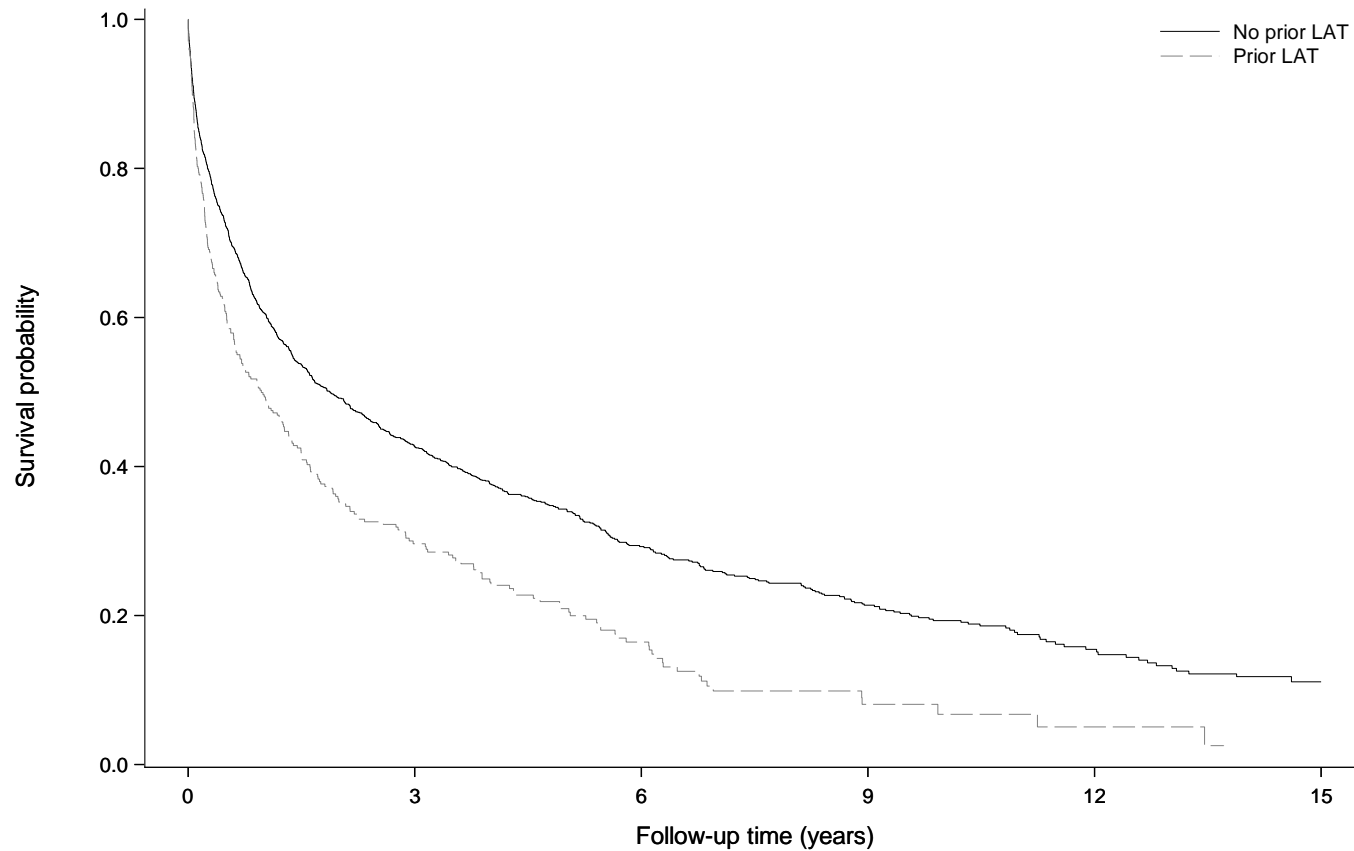
Risk of selected site-specific cancers in patients with lower limb arterial thrombosis during 0–365 days of follow-up.

	Incidence rate per 1000 person-years (95% CI)	Observed/ expected	Standardized incidence ratio (95% CI)
Smoking-related cancers			
Pancreas	3.5 (1.9–5.2)	17/2	7.8 (4.5–12.4)
Lung	10.6 (7.7–13.5)	51/10	5.3 (3.9–6.9)
Urinary bladder	2.9 (1.4–4.4)	14/5	2.7 (1.5–4.6)
Other common cancers			
Colon	2.9 (1.4–4.4)	14/7	1.9 (1.0–3.2)
Breast	3.1 (1.5–4.7)	15/7	2.3 (1.3–3.7)
Prostate	2.3 (0.9–3.6)	11/10	1.1 (0.5–1.9)
Non-melanoma skin cancers	5.8 (3.7–8.0)	28/22	1.3 (0.8–1.8)
Haematological cancers			
Leukemia	1.3 (0.3–2.2)	6/2	3.1 (1.1–6.7)
Non-Hodgkin's lymphoma	0.8 (0.02–1.6)	4/2	1.9 (0.5–4.8)





Results



No prior LAT 1797
Prior LAT 366

523
79

202
31

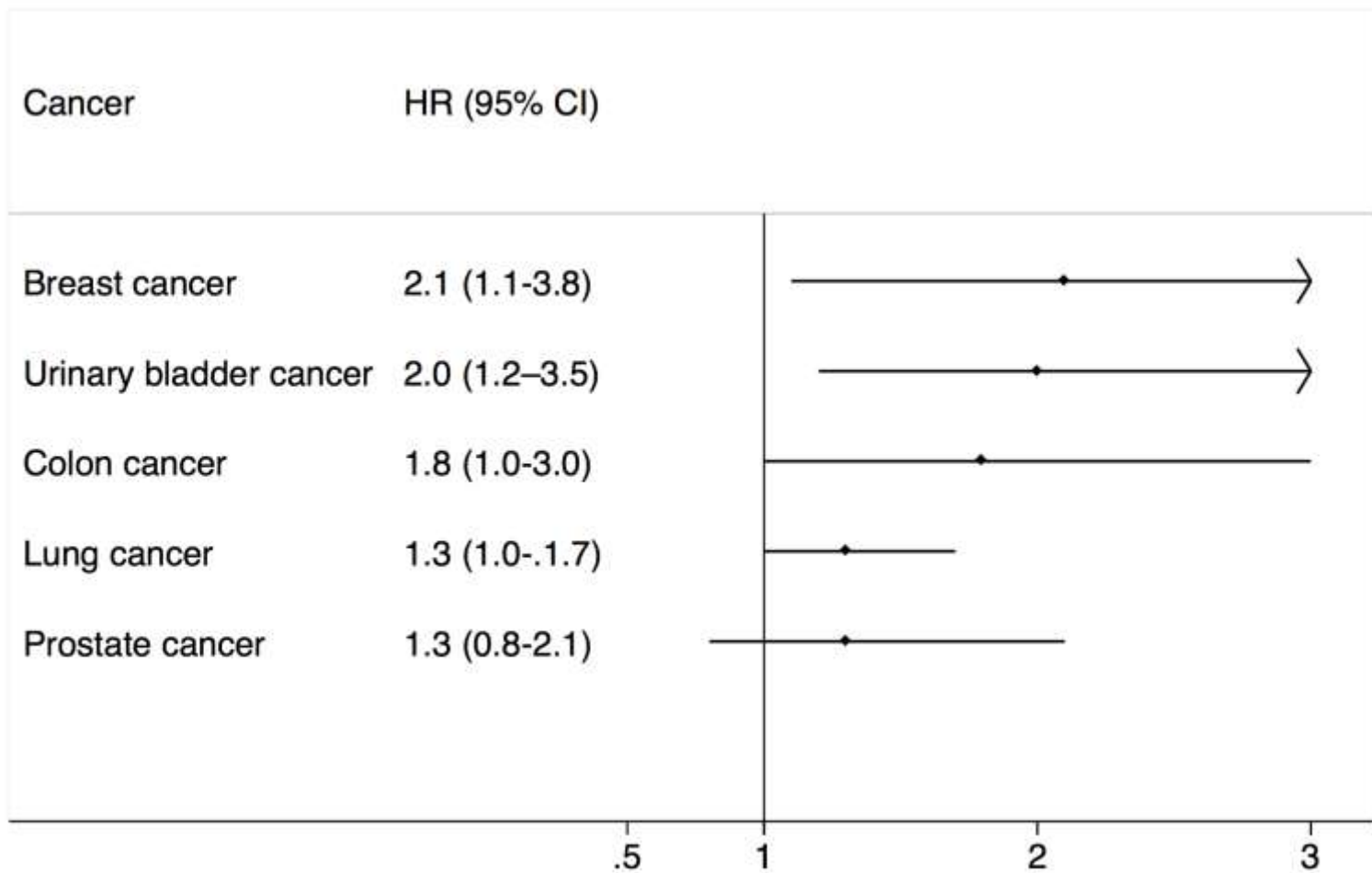
126
9

44
2

10
0



Results





Conclusion

- Lower limb arterial thrombosis was a marker of increased risk of cancer
- Lower limb arterial thrombosis was an adverse prognostic factor in cancer patients



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