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Occurrence of Seasonal Variation in Incident Unprovoked Venous Thromboembolism in the Danish Population

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Introduction

Incidence of venous thromboembolism (VTE), i.e. deep venous thrombosis and pulmonary embolism, is found to be higher in winter than summer. However, this variation may result from seasonal variation in occurrence of diseases that provoke VTE. Knowledge about possible seasonal variation of incident VTE may improve preventive strategies.

Objectives

We aimed to asses the occurrence of seasonal variation in incident unprovoked VTE for subjects with and without any comorbidity diseases using the Danish population as a cohort.

Materials and Methods

- Historical cohort study
- Danish population

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- Aged 20 or more
- Diagnosed with an incident VTE during January 1980 until August 2008
- No previous diagnosis of any cancer
- No registration in the Danish National Patient Registry within three months before diagnosis of incident VTE
- Statistical analysis using Poisson regression
 - Secular trend: Cubic spline
 - Seasonal variation: Single cycle sinusoidal curve
 - Adjusting for gender, age- and Charlson comorbidity index groups
 - Interaction between seasonality and Charlson comorbidity index groups

NORTH DENMARK REGION



Estimated peak-to-trough (PTT) ratios versus age groups for cases with Charlson comorbidity index equaling zero (solid line) and for cases with Charlson comorbidity index (dashed line).

Years of age





Seasonal component modelled by a single cycle sinusoidal curve for females aged 65-69 with Charlson comorbidity index equaliung zero (solid line) and with positive Charlson comorbidity index (dashed line).



- comorbidity index groups



• Seasonal variation of incident unprovoked VTE differs in Charlson

• No indication of different seasonal variation between gender • PTT increases with age for subjects with comorbid diseases

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