**Title: Incidence and mortality due to thromboembolic events during the COVID-19 pandemic: Multi-sourced population-based health records cohort study.**

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**Table 1. Patient characteristic for admissions in England with arterial and venous thromboembolic events between 1st Feb 2018 and 31st July 2020, by study period (pre-COVID-19 and during COVID-19), and COVID-19 status.**

**Table 2. Incidence rates, absolute risk change and adjusted relative risk between pre-COVID-19 and COVID-19 periods.**

**Figure 1. Incidence rates of thromboembolic events, by the type of thromboembolic event and COVID-19 status.**

**Figure 2. Incidence rates of deep venous thrombosis and pulmonary embolism events, by COVID-19 status.**

**Figure 3. Daily number of thromboembolic related deaths, by the type of thromboembolic event and place of death.**

**Table 1. Patient characteristics for admissions in England with arterial and venous thrombo-embolic events between 1st Feb 2018 and 31st July 2020, by study period (pre-COVID-19 and during COVID-19), and COVID-19 status.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Study period** | | **COVID-19 status** | |
|  | **Before COVID-19 period** | **COVID-19 period** | **COVID-19 +ve** | **COVID-19 -ve** |
| **N** | 185846 | 86577 | 84728 | 1849 |
| **Women (%)** | 90904 (48.9) | 41453 (47.9) | 40594 (47.9) | 859 (46.5) |
| **Age (%)** |  |  |  |  |
| **0-49** | 22943 (12.4) | 10944 (12.8) | 10760 (12.8) | 184 (10.2) |
| **50-59** | 21837 (11.8) | 10850 (12.6) | 10651 (12.7) | 199 (11.0) |
| **60-69** | 31920 (17.3) | 15146 (17.6) | 14846 (17.7) | 300 (16.6) |
| **70-79** | 47039 (25.5) | 21829 (25.4) | 21380 (25.4) | 449 (24.9) |
| **80+** | 60603 (32.9) | 27059 (31.5) | 26389 (31.4) | 670 (37.2) |
| **Charlson comorbidity index** |  |  |  |  |
| **0** | 31611 (17.0) | 14711 (17.0) | 14455 (17.1) | 256 (13.8) |
| **1** | 43147 (23.2) | 18572 (21.5) | 18287 (21.6) | 285 (15.4) |
| **2** | 36159 (19.5) | 16050 (18.5) | 15771 (18.6) | 279 (15.1) |
| **3** | 26739 (14.4) | 12611 (14.6) | 12307 (14.5) | 304 (16.4) |
| **4+** | 48190 (25.9) | 24633 (28.5) | 23908 (28.2) | 725 (39.2) |
| **Atrial fibrillation (%)** | 36413 (19.6) | 16708 (19.3) | 16223 (19.1) | 485 (26.2) |
| **Arterial TE (%)** | 119373 (64.2) | 55166 (63.7) | 53975 (63.7) | 1191 (64.4) |
| **Venous TE (%)** | 66473 (35.8) | 31411 (36.3) | 30753 (36.3) | 658 (35.6) |
| **DVT (%)** | 30586 (16.5) | 13852 (16.0) | 13712 (16.2) | 140 (7.6) |
| **PE (%)** | 35575 (19.1) | 17767 (20.5) | 17162 (20.3) | 605 (32.7) |

Note: frequency (percentage) was reported for each category. TE, thrombo-embolic events; DVT, deep vein thrombosis; PE, pulmonary embolism.

**Table 2. Incidence rates, absolute risk change and adjusted relative risk between pre-COVID-19 and COVID-19 periods.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Incidence rate (per 100,000)** | |  | **Absolute risk change** |  | **Unadjusted relative risk\*** | **Adjusted relative risk\*\*** |
| **Conditions** | **Pre-COVID-19** | **COVID-19 period** |  | **Percentage (95% CI)** |  | **RR (95% CI)** | **RR (95% CI)** |
| **All patients** |  |  |  |  |  |  |  |
| **TE** | 1090 | 1590 |  | 45.9% (45.1-46.6%) |  | 1.42 (1.41-1.43) | 1.43 (1.41-1.44) |
| **Arterial TE** | 720 | 1036 |  | 43.8% (42.9-44.7%) |  | 1.40 (1.39-1.41) | 1.42 (1.40-1.44) |
| **Venous TE** | 369 | 554 |  | 50.0% (48.6-51.3%) |  | 1.46 (1.45-1.48) | 1.44 (1.42-1.47) |
| **DVT** | 164 | 233 |  | 42.2% (40.3-44.1%) |  | 1.48 (1.46-1.50) | 1.46 (1.42-1.49) |
| **PE** | 205 | 329 |  | 60.8% (59.0-62.7%) |  | 1.54 (1.52-1.56) | 1.49 (1.46-1.52) |

\* A Poisson regression model was used to calculate the relative risk, accounted for time trend.

\*\*A Poisson regression model was used to calculate the relative risk, adjusted for age, sex, COVID-19 status, Charlson Comorbidity Index and time trend. TE, thromboembolic events; DVT, deep vein thrombosis; PE, pulmonary embolism.

**Figure 1. Incidence rates of thromboembolic events, by the type of thromboembolic event and COVID-19 status.**

Graphical user interface, chart, line chart

Description automatically generated

TE; thrombo-embolic events

**Figure 2. Incidence rates of DVT and PE events, by COVID-19 status.**

Graphical user interface

Description automatically generated

DVT, deep vein thrombosis; PE, pulmonary embolism.

**Figure 3. Daily number of thromboembolic related deaths, by the type of thromboembolic event and place of death.**

Graphical user interface, chart, histogram

Description automatically generated

TE; thrombo-embolic events