**The incidence of venous thromboembolism is similar in outpatients with and without SARS-CoV-2 infection**

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| Challenge | The incidence of venous thromboembolic events and benefit of thromboprophylaxis in outpatients with Coronavirus disease 2019 (COVID-19) are not well established |
| Existing Evidence | Several studies demonstrate that hospitalized COVID-19 patients have a high rate of thromboembolic complications which are associated with increased mortality |
| Target Population | Symptomatic adult patients tested for SARS-CoV-2 infection |
| Intervention or Exposure | SARS-CoV-2 infection |
| **Outcomes/Key Findings** | **Rates of venous thromboembolism in outpatients with COVID-19 were not significantly different from symptomatic SARS-CoV-2 negative patients** |
| **Resulting Action/Change** | **KP regional anticoagulation guidelines do not need to be modified to offer thromboprophylaxis to outpatients with SARS-CoV-2 infection, pending results from randomized trials.** |
| Additional Recommendations | Dissemination of the results to frontline physicians (e.g. hospitalists and primary care) to inform future practice/research. |
| Implementation Tools | N/A |
| Implementation Measurement | Could evaluate proportions of patients empirically started on these agents before/after these findings are disseminated. |

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| Reference | Characteristics of subjects by SARS-CoV-2 and VTE status (N=220,588)   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | SARS-CoV-2 positive patients | | |  | | SARS-CoV-2 negative patients | | | |  | No VTE  N=25,906  N (%) | | VTE  N=198  N (%) | |  | | No VTE  N=193,476  N (%) | VTE  N=1,008  N (%) | | Age, years | |  |  | |  | |  |  | | 18-29 | | 5925 (23) | 14 (7) | |  | | 34180 (18) | 28 (3) | | 30-39 | | 5670 (22) | 19 (10) | |  | | 41102 (21) | 47 (5) | | 40-49 | | 5451 (21) | 38 (19) | |  | | 36432 (19) | 89 (9) | | 50-59 | | 4682 (18) | 48 (24) | |  | | 33676 (17) | 152 (15) | | 60-69 | | 2655 (10) | 40 (20) | |  | | 25593 (13) | 245 (24) | | 70-79 | | 984 (4) | 26 (13) | |  | | 14382 (7) | 234 (23) | | 80+ | | 539 (2) | 13 (7) | |  | | 8111 (4) | 213 (21) | | Median (IQR) | | 42 (31-55) | 56 (45-67) | |  | | 46 (34-60) | 68 (56-78) | | Sex | |  |  | |  | |  |  | | Female | | 13649 (53) | 79 (40) | |  | | 116837 (60) | 510 (51) | | Male | | 12257 (47) | 119 (60) | |  | | 76639 (40) | 498 (49) | | Race/ethnicity | |  |  | |  | |  |  | | Asian | | 3176 (12) | 30 (15) | |  | | 32310 (17) | 116 (12) | | Black | | 1767 (7) | 25 (13) | |  | | 13857 (7) | 105 (10) | | Hispanic | | 13116 (51) | 88 (44) | |  | | 46857 (24) | 127 (13) | | White | | 5667 (22) | 45 (23) | |  | | 84398 (44) | 615 (61) | | Missing/other | | 2180 (8) | 10 (5) | |  | | 16054 (8) | 45 (4) | | Body mass index | |  |  | |  | |  |  | | Underweight | | 163 (1) | 1 (0) | |  | | 2616 (1) | 24 (2) | | Healthy weight | | 4588 (18) | 23 (12) | |  | | 55413 (29) | 256 (25) | | Overweight | | 7963 (31) | 56 (28) | |  | | 62134 (32) | 303 (30) | | Obese | | 12086 (47) | 110 (56) | |  | | 69244 (36) | 417 (41) | | Unknown | | 1106 (4) | 8 (4) | |  | | 4069 (2) | 8 (1) | | Median (IQR) | | 30 (26-34) | 31 (28-36) | |  | | 28 (24-32) | 29 (24-34) | | Comorbidities | |  |  | |  | |  |  | | Hypertension | | 2563 (10) | 98 (49) | |  | | 25151 (13) | 611 (61) | | Diabetes | | 2672 (10) | 71 (36) | |  | | 18493 (10) | 322 (32) | | Chronic kidney disease | | 901 (3) | 28 (14) | |  | | 11056 (6) | 273 (27) | | COPD or asthma | | 2254 (9) | 38 (19) | |  | | 28058 (15) | 300 (30) | | Congestive heart failure | | 364 (1) | 22 (11) | |  | | 6128 (3) | 256 (25) | | Liver cirrhosis | | 69 (0) | 3 (2) | |  | | 1029 (1) | 38 (4) | | Malignancy | | 397 (2) | 15 (8) | |  | | 8592 (4) | 298 (30) | | Charlson Comorbidity Index | |  |  | |  | |  |  | | 0 | | 18428 (71) | 96 (48) | |  | | 122256 (63) | 264 (26) | | 1-2 | | 5698 (22) | 66 (33) | |  | | 48548 (25) | 271 (27) | | 3-4 | | 986 (4) | 16 (8) | |  | | 11429 (6) | 193 (19) | | 5+ | | 794 (3) | 20 (10) | |  | | 11243 (6) | 280 (28) | | Median (IQR) | | 0 (0-1) | 1 (0-2) | |  | | 0 (0-1) | 2 (0-5) | | Smoking status | |  |  | |  | |  |  | | Ever | | 6597 (25) | 58 (29) | |  | | 66075 (34) | 491 (49) | | Never | | 18367 (71) | 131 (66) | |  | | 124209 (64) | 510 (51) | | Unknown | | 942 (4) | 9 (5) | |  | | 3192 (2) | 7 (1) | | Test month | |  |  | |  | |  |  | | February-April | | 2068 (8) | 46 (23) | |  | | 28428 (15) | 201 (20) | | May | | 979 (4) | 9 (5) | |  | | 32579 (17) | 235 (23) | | June | | 3354 (13) | 25 (13) | |  | | 28577 (15) | 165 (16) | | July | | 12185 (47) | 70 (35) | |  | | 61153 (32) | 217 (22) | | August | | 7320 (28) | 48 (24) | |  | | 42739 (22) | 190 (19) | | Lab test setting | |  |  | |  | |  |  | | Outpatient | | 22209 (86) | 95 (48) | |  | | 168780 (87) | 190 (19) | | Emergency department | | 2420 (9) | 22 (11) | |  | | 12997 (7) | 107 (11) | | Inpatient | | 1277 (5) | 81 (41) | |  | | 11699 (6) | 711 (71) | | Highest level of care during follow-up | |  |  | |  | |  |  | | Outpatient/emergency department | | 23092 (89) | 28 (14) | |  | | 172713 (89) | 114 (11) | | Inpatient | | 2252 (9) | 82 (41) | |  | | 18479 (10) | 645 (64) | | Intensive care unit | | 562 (2) | 88 (44) | |  | | 2284 (1) | 249 (25) |   VTE=venous thromboembolism; IQR=Interquartile range; COPD=chronic obstructive pulmonary disease     |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 30-day VTE incidence and time to anticoagulation by diagnosis location and SARS-CoV-2 status  N=220,588 | | | | | | | | | |  | | | Incidence of VTE, N (per 1,000 subjects) | | | Days from SARS-CoV-2 testing to anticoagulation initiation, Median (IQR) | | |  | SARS-CoV-2 positive  N=26,104 | | SARS-CoV-2 negative  N=194,484 | p-valuea | SARS-CoV-2 positive  N=198 | p-valueb | | All VTE events | | 198 (7.59) | | 1,008 (5.18) | <0.001 | 7 (1-16)  11 (4-21)  7 (1-14)  5 (1-13)  11 (1-25) |  | | Outpatient events | | 47 (1.80) | | 434 (2.23) | 0.16 |  | | Hospital-assoc. | | 151 (5.78) | | 574 (2.95) | <0.001 | 0.10 | | Inpatient | | 125 (4.79) | | 352 (1.81) | <0.001 |  | | Post-hospital | | 26 (0.96) | | 222 (1.14) | 0.51 | 0.67 | | VTE=venous thromboembolism; IQR=interquartile range  a Chi-square test | | | | | | | | | b Kruskal-Wallis test comparing outpatient VTE with hospital-associated VTE and the subset of post-hospital VTE | | | | | | | | |