**Appendix S1**

**Supplementary Online Content**

**Table of Contents**

**Supplemental Figure 1.** Consort Diagram for Study Cohort Selection………………2

**Supplemental Figure 2.** Subgroup Analysis of Patients Who Received Anticoagulation for Three Months or More………..………………………………………3

**Supplemental Table 1**. ICD-9-CM Diagnosis Codes for Venous Thromboembolism…...................................................................................................4

**Supplemental Table 2.** ICD-O-3 Histology Codes for Lung Cancer Subtypes………4

**Supplemental Table 3.** Socio-economic Characteristics of Study Cohort…………...5

**Supplemental Table 4.** Elements of Elixhauser comorbidity score index…………....5

**Supplemental Figure 1. Consort Diagram for Study Cohort Selection.**

754,469 Patients were diagnosed with gastric, colorectal, pancreatic, lung, ovarian or brain cancer in between 2007 – 2015

4,853 Were included in the LMWH group

4,853 Were included in the warfarin group

49,337 Were diagnosed with eligible index venous thromboembolism

705,132 Were excluded

153,008 Were not entitled to Medicare by old age

502,260 Did not have VTE diagnosis during observation period

15,790 Had VTE diagnosis that preceded cancer diagnosis by more than 6 months

3,848 Were <66 years at index VTE diagnosis

30,226 Were not enrolled in Medicare Part A, B or D at the time of VTE diagnosis

1,601 Were excluded

1,240 had VTE diagnosed more than 1 month before cancer diagnosis

223 Did not survive 14 days after VTE

138 Had cancer stage 0

1,621 Were not included based on lack of acceptable propensity-score matching

 537 Received LMWH

 1,084 Received Warfarin

9,706 Were included in the propensity-score matched analysis

12,928 Received LMWH or Warfarin within 30 days after diagnosis of venous thromboembolism

36,409 Were excluded

34,549 Did not have anticoagulant prescription within 30 days after diagnosis

1,860 Received direct oral anticoagulants

**Supplemental Figure 2.** **Subgroup Analysis of Patients with Anticoagulation for Three Months or more.**



**Supplemental Table 1. ICD-9-CM Diagnosis Codes for Venous Thromboembolism**

|  |  |
| --- | --- |
| **Conditions** | **ICD-9-CM Diagnosis Codes** |
| Pulmonary embolism | 415.1, 415.11, 415.13, 415.19 |
| Deep vein thrombosis | 451.1, 451.2, 451.81, 453.2, 453.4x, 451.83, 451.84, 451.89, 453.72, 453.73, 453.74, 453.75, 453.76, 453.77, 453.82, 453.83, 453.84, 453.85, 453.86, 453.87, 451.9, 453.8, 453.89, 453.9 |

**Supplemental Table 2. ICD-O-3 Histology Codes for Lung Cancer Subtype**

|  |  |
| --- | --- |
| **Subtypes**  | **ICD-O-3 Histology Codes** |
| Non-small-cell lung cancer | 8010, 8012, 8013, 8020, 8046, 8050–8052, 8070–8078, 8140, 8141, 8143, 8147, 8250–8255, 8260, 8310, 8430, 8480, 8481, 8490, 8560, and 8570–8575 |
| Small-cell lung cancer | 8002, 8041, 8042, 8043, 8044, and 8045. |

**Supplemental Table 3. Socio-economic Characteristics of Study Cohort**

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristics** | **Total****(N = 9,706)** | **Warfarin****(N = 4,853)** | **LMWH****(N = 4,853)** |
| Marital Status — no. (%)Married or partneredUnmarried(single/separated/divorced/widowed)Unknown | 5,276 (54)3,997 (41)433 (4) | 2,540 (52)2,103 (43)210 (4) | 2,736 (56)1,894 (39)223 (5) |
| Median household income — no. (%) 1st quarter2nd quarter3rd quarter4th quarterUnknown | 2,240 (23)2,280 (23)2,227 (23)2,262 (23)697 (7) | 1,245 (26)1,187 (24)1,067 (22)985 (20)369 (8) | 995 (21)1,093 (23)1,160 (24)1,277 (26)328 (7) |
| Living below poverty line — no. (%) <10%≥10%Unknown | 5,030 (52)3,979 (41)697 (7) | 2,330 (48)2,154 (44)369 (8) | 2,700 (56)1,825 (38)328 (7) |
| Adults (≥25y) with less than high school (<12 yr) education — no. (%) >33%33 to <66%≥66%Unknown | 8,008 (83)981 (10)20 (0)697 (7) | 3,944 (81)530 (11)10 (0)369 (8) | 4,064 (84)451 (9)10 (0)328 (7) |

**Supplemental Table 4. Ten most common elements of Elixhauser comorbidity index score**

|  |  |  |  |
| --- | --- | --- | --- |
| **Comorbidity— no. (%)** | **Total****(N = 9,706)** | **Warfarin****(N = 4,853)** | **LMWH****(N = 4,853)** |
| Solid Tumor without MetastaisPulmonary Circulation DisordersHypertension UncomplicatedMetastatic CancerFluid and Electrolyte DisordersChronic Pulmonary DiseaseCardiac ArrhythmiaDiabetes UncomplicatedWeight LossHypothyroidism | 6,064 (62)4,356 (45)4,134 (43)3,564 (37)2,544 (26)2,391 (25)1,922 (20)1,654 (17)1,295 (13)1,005 (10) | 2,935 (60)2,140 (44)2,071 (43)1,601 (33)1,309 (27)1,233 (25)995 (21)873 (18)627 (13)500 (10) | 3,129 (64)2,216 (46)2,063 (43)1,963 (40)1,311 (27)1,082 (22)927 (19)781 (16)668 (14)505 (10) |