**SUPPLEMENTARY TABLES**

**Supplementary Table 1: characteristics of patients not included in the analysis because of transfer to other hospitals**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables** | **Episodes not included (transfers to other hospitals)**  | **Patients included** | **P** |
| **N=** **29,463** | **N= 241,760** |
| **Age (SD)** | 65.5 ± 12. 9  | 68.6 ± 14.1  | <0.001 |
| **Female Sex (%)** | 24.13 | 30.36 | <0.001 |
| **Cardiovascular risk factors** |  |  |  |
| *Smoking (%) (ICD-9-CM code: V15.82)* | 19.95 | 15.01 | <0.001 |
| *Hypertension (%) (CC 95)* | 55.03 | 49.14 | <0.001 |
| *Dyslipidemia (%) (CC 25)* | 51.45 | 44.74 | <0.001 |
| *Diabetes mellitus (%) (CC 17-19. 123)* | 33.07 | 32.37 | 0.016 |
| **Cardiovascular disease** |  |  |  |
| *Peripheral artery disease\**  | 8.83 | 7.21 | <0.001 |
| *History of PCI (%) (ICD-9-CM code: V45.82 y 996.72)* | 23.36 | 12.02 | <0.001 |
| *Congestive heart failure (%) (CC 85)* | 22.46 | 22.65 | 0.458 |
| *Valvular heart disease (%) (CC 106-108)* | 14.93 | 14.44 | 0.024 |
| **Comorbidity** |  |  |  |
| *Renal failure (%) (CC 135-140)* | 13.00 | 15.79 | <0.001 |
| *COPD (%) (CC 111)* | 9.17 | 7.52 | <0.001 |
| *Metastatic cancer. acute leukemia and other severe cancers (%) (CC 8-9)* | 0.78 | 1.17 | <0.001 |
| AMI presentationSTEMI (410.x1. except 410.71) | 66.60 | 60.10 | <0.001 |
| *Cardiogenic shock (%) (ICD-9-CM code: 785.51)* | 3.86 | 4.64 | <0.001 |
| *Cardio-respiratory failure\* (%) (CC 84 except 785.51)* | 9.21 | 9.16 | 0.788 |
| *Pneumonia (CC 114-116)* | 2.23 | 2.29 | 0.478 |
| MC: mechanical complications; COPD: chronic obstructive pulmonary disease; PCI: percutaneous coronary intervention; SD: standard deviation\* *Peripheral artery disease* (ICD-9-CM codes: 040.0. 440.0. 440.1. 440.20. 440.21. 440.22. 440.23. 440.24. 440.29. 440.30. 440.31. 440.32. 440.4. 441.00. 441.01. 441.01. 441.02. 441.03. 441.1. 441.2. 441.3. 441.4. 441.5. 441.6. 441.7. 441.9. 442.0. 442.1. 442.2. 442.3. 442.81. 442.82. 442.83. 442.84. 442.89. 442.9. 443.1. 443.21. 443.22. 443.23. 443.24. 443.29. 443.81. 443.82. 443.89. 443.9. 444.01. 444.09. 444.1. 444.21. 444.21. 444.22. 444.81. 444.89. 444.9. 445.01. 445.02. 445.81. 445.89. 447.1. 447.2. 447.3. 447.5. 447.6. 447.70. 447.71. 447.72. 447.73. 447.8. 447.9. 448.0. 557.0. 557.1. 557.9. 593.81. 785.4)CC: Condition Categories (Pope et al -ref. 18-) |

**Supplementary Table 2: Risk factors associated with mechanical complications in patients with acute myocardial infarction (multilevel logistic regression model)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Odds Ratio** | **P** | **[95% Conf. Interval]** |
| Age (18-44) |  |  |  |  |
| 45-54 | 1.34 | 0.381 | 0.70 | 2.57 |
| 55-64 | 2.59 | 0.003 | 1.40 | 4.82 |
| 65-74 | 4.32 | < 0.001 | 2.35 | 7.94 |
| 75-84 | 4.78 | < 0.001 | 2.61 | 8.78 |
| 85-94 | 2.30 | 0.010 | 1.21 | 4.34 |
| ≥ 95 | 0.77 | 0.731 | 0.17 | 3.48 |
| Woman | 1.19 | 0.022 | 1.03 | 1.39 |
| **Cardiovascular disease** |  |  |  |  |
| Valvular heart disease (CC 106-108) | 1.49 | < 0.001 | 1.26 | 1.76 |
| **Comorbidity** |  |  |  |  |
| COPD (%) (CC 111) | 2.44 | 0.010 | 1.24 | 4.83 |
| **AMI presentation** |  |  |  |  |
| STEMI (410.x1 except 410.71) | 2.95 | < 0.001 | 2.02 | 4.31 |
| Cardiogenic shock (%) (ICD-9-CM code: 785.51) | 6.17 | < 0.001 | 5.24 | 7.25 |
| Cardio-respiratory failure and shock\* (%) (CC 84 except 785.51) | 1.83 | < 0.001 | 1.55 | 2.17 |
| AUROC: 0.83 |

**Supplementary Table 3: Risk factors associated with cardiac tamponade in patients with acute myocardial infarction (logistic regression model)**

|  | **Odds Ratio** | **P** | **[95% Conf. Interval]** |
| --- | --- | --- | --- |
| Age (18-44) |  |  |  |  |
| 45-54 | 1.59 | 0.256 | 0.71 | 3.54 |
| 55-64 | 2.41 | 0.026 | 1.11 | 5.21 |
| 65-74 | 4.31 | < 0.001 | 2.02 | 9.19 |
| 75-84 | 4.79 | < 0.001 | 2.25 | 10.19 |
| 85-94 | 2.28 | 0.041 | 1.03 | 5.03 |
| ≥ 95 | 1.00 | 0.256 | 0.71 | 3.54 |
| **AMI presentation** |  |  |  |  |
| STEMI (410.x1 except 410.71) | 2.79 | < 0.001 | 2.23 | 3.50 |
| Cardiogenic shock (%) (ICD-9-CM code: 785.51) | 5.12 | < 0.001 | 4.07 | 6.44 |
| Cardio-respiratory failure and shock\* (%) (CC 84 except 785.51) | 2.16 | < 0.001 | 1.73 | 2.71 |
| AUROC: 0.77 |

**Supplementary Table 4: Risk factors associated with ventricular septal rupture in patients with acute myocardial infarction (logistic regression model)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Odds Ratio** | **P** | **[95% Conf. Interval]** |
|  Woman | 1.86 | 0.001 | 1.29 | 2.67 |
| **Cardiovascular disease** |  |  |  |  |
| Prior myocardial infarction (ICD-9-CM code:410.01 y 410.11) | 1.63 | 0.01 | 1.12 | 2.36 |
| Congestive heart failure (CC 85) | 1.63 | 0.013 | 1.26 | 1.76 |
| **Comorbidity** |  |  |  |  |
| Renal failure (CC 135-140) | 2.23 | < 0.001 | 1.53 | 3.26 |
| **AMI presentation** |  |  |  |  |
| STEMI (410.x1 except 410.71) | 6.29 | < 0.001 | 3.03 | 13.07 |
| Cardiogenic shock (%) (ICD-9-CM code: 785.51) | 9.44 | < 0.001 | 6.34 | 14.05 |
| AUROC: 0.86 |

**Supplementary Table 5: Risk factors associated with papillary muscle or chordae tendinae rupture in patients with acute myocardial infarction (logistic regression model)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Odds Ratio** | **P** | **[95% Conf. Interval]** |
| **Cardiovascular disease** |  |  |  |  |
| Valvular heart disease (CC 106-108) | 15.37 | < 0.001 | 10.77 | 21.94 |
| **AMI presentation** |  |  |  |  |
|  STEMI (410.x1 except 410.71) | 2.38 | < 0.001 | 1.59 | 3.57 |
|  Cardiogenic shock (%) (ICD-9-CM code: 785.51) | 9.12 | < 0.001 | 6.20 | 13.39 |
|  Cardio-respiratory failure and shock\* (%) (CC 84 except 785.51) | 2.16 | < 0.001 | 1.45 | 3.22 |
| AUROC: 0.89 |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| **Supplementary Table 6: Multivariate analysis for in-hospital mortality of patients with acute myocardial infarction.** |

| **Risk factor** | **OR** | **95% CI** | **P** |
| --- | --- | --- | --- |
| **Age (18-44 years)** |  |  |  |  |
| *45-54* | 1.37 | 1.13-1.67 | 0.001 |
| *55-64* | 2.18 | 1.80-2.63 | 0.001 |
| *65-74* | 3.71 | 3.08-4.47 | 0.001 |
| *75-84* | 7.64 | 6.36-9.18 | 0.001 |
| *85-94* | 14.46 | 12.02-17.40 | 0.001 |
| *≥ 95* | 27.69 | 22.38-34.25 | 0.001 |
| **Female sex** | 1.18 | 1.14-1.23 | 0.001 |
| **Cardiovascular risk factors and cardiovascular disease** |
| *Diabetes mellitus (%) (CC 17-19. 123)* | 1.09 | 1.05-1.12 | <0.001 |
| *Congestive HF (CC 85)* | 1.51 | 1.45-1.56 | 0.001 |
| *Stroke (CC 99-100)*  | 5.73 | 5.14-6.37 | 0.001 |
| *Cerebrovascular disease (CC 101-102. 105)*  | 1.15 | 1.06-1.24 | 0.001 |
| **Comorbidity** |  |  |  |
| *History of cancer\* (CC 8-9)*  | 3.22 | 2.88-3.59 | 0.001 |
| *COPD* (CC 111)  | 1.51 | 1.43-1.60 | 0.001 |
| *Renal failure* (CC 135-140)  | 1.96 | 1.88-2.03 | 0.001 |
| *Chronic liver disease (CC 27-29)*  | 1.99 | 1.73-2.28 | 0.001 |
| *Hemiplegia. paraplegia. paralysis. functional disability (CC 70-74. 103-104. 189-190)*  | 1.68 | 1.56-1.85 | 0.001 |
| *Dementia or other specified brain disorders (CC 51-53)* | 2.04 | 1.92-2.16 | 0.001 |
| *Major psychiatric disorders (CC 57-59)* | 1.83 | 1.54-2.17 | 0.001 |
| **AMI presentation** |  |  |  |
| *STEMI (410.x1 except 410.71)* | 2.06 | 1.98-2.14 | 0.001 |
| *Mechanical complications* | 9.17 | 7.65-10.99 | 0.001 |
| *Cardiogenic shock (ICD-9-CM code: 785.51)* | 21.72 | 20.64-22.86 | 0.001 |
| *Cardio-respiratory failure (CC 84 except 785.51)* | 5.24 | 5.03-5.47 | 0.001 |
| *Pneumonia (CC 114-116)* | 1.98 | 1.84-2.13 | 0.001 |
| \* Metastatic cancer. acute leukemia and other severe cancers CC: Condition Categories (Pope et al. -ref 22-)Abbreviations as Table 1. |