**Supplementary Table S1: Baseline Characteristics of STEMI Patients by SMuRF Count**

| | SMuRF Count | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | 1 | | 2 | | 3 | | 4 | | |
| **Demographics and Clinical Characteristics** | **n=919** | | **n=834** | | **n=1007** | | **n=649** | | **n=101** | | **P-value** |
| | n | % | n | % | n | % | n | % | n | % | |
| **Age, median (IQR)** | 61 (52, 70) | | 60 (52, 69) | | 62 (54, 72) | | 62 (54, 71) | | 59 (52, 67) | | 0.09 |
| **Age groups** | | | | | | | | | | | 0.005 |
| <40 | 49 | 5.3% | 31 | 3.7% | 31 | 3.1% | 18 | 2.8% | 5 | 5.0% | |
| 40-49 | 140 | 15.2% | 138 | 16.6% | 128 | 12.7% | 80 | 12.3% | 14 | 13.9% | |
| 50-59 | 228 | 24.8% | 245 | 29.4% | 276 | 27.4% | 166 | 25.6% | 33 | 32.7% | |
| 60-69 | 271 | 29.5% | 216 | 25.9% | 269 | 26.7% | 200 | 30.8% | 32 | 31.7% | |
| 70-79 | 150 | 16.3% | 130 | 15.6% | 199 | 19.8% | 131 | 20.2% | 11 | 10.9% | |
| >79 | 80 | 8.7% | 74 | 8.9% | 104 | 10.3% | 54 | 8.3% | 6 | 5.9% | |
| **Sex** | | | | | | | | | | | 0.03 |
| Male | 709 | 77.2% | 615 | 73.7% | 744 | 73.9% | 455 | 70.1% | 71 | 70.3% | |
| Female | 210 | 22.9% | 219 | 26.5% | 263 | 26.1% | 194 | 29.9% | 30 | 29.7% | |
| **Race** | | | | | | | | | | | 0.03 |
| White/Caucasian | 818 | 89.0% | 734 | 88.0% | 899 | 89.3% | 544 | 83.8% | 83 | 82.2% | |
| African American | 8 | 0.9% | 5 | 0.6% | 5 | 0.5% | 4 | 0.6% | 0 | 0.0% | |
| Asian | 15 | 1.6% | 19 | 2.3% | 20 | 2.0% | 18 | 2.8% | 0 | 0.0% | |
| Pacific Islander | 3 | 0.3% | 2 | 0.2% | 2 | 0.20% | 1 | 0.2% | 0 | 0.0% | |
| Unknown | 75 | 8.2% | 74 | 8.9% | 81 | 8.0% | 82 | 12.6% | 18 | 17.8% | |
| **Family history of heart disease** | 137 | 14.9% | 237 | 28.4% | 334 | 33.2% | 221 | 34.1% | 57 | 56.4% | <0.0001 |
| **Comorbidities** | | | | | | | | | | | |
| Atrial Fibrillation (AF) | 112 | 12.2% | 119 | 14.3% | 167 | 16.6% | 121 | 18.6% | 13 | 12.9% | 0.005 |
| COPD | 52 | 5.7% | 54 | 6.5% | 91 | 9.0% | 74 | 11.4% | 15 | 14.9% | <0.001 |
| Depression | 136 | 14.8% | 129 | 15.5% | 153 | 15.2% | 141 | 21.7% | 15 | 14.9% | 0.002 |
| Heart Failure (HF) | 33 | 3.6% | 26 | 3.1% | 48 | 4.8% | 47 | 7.2% | 5 | 5.0% | 0.002 |
| Stroke | 12 | 1.3% | 7 | 0.8% | 16 | 1.6% | 13 | 2.0% | 1 | 1.0% | 0.40 |
| **SMURF Criteria** | | | | | | | | | | | |
| Diabetes | 0 | 0% | 291 | 34.9% | 172 | 17.1% | 480 | 74.0% | 101 | 100% | NA |
| Hyperlipidemia | 0 | 0% | 136 | 16.3% | 755 | 75.0% | 621 | 95.7% | 101 | 100% | NA |
| Hypertension | 0 | 0% | 182 | 21.8% | 832 | 82.6% | 621 | 95.7% | 101 | 100% | NA |
| Smoking history | | | | | | | | | | | NA |
| Never | 919 | 100% | 609 | 73.0% | 752 | 74.7% | 424 | 65.3% | 0 | 0% | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Former | 0 | 0% | 69 | 8.3% | 93 | 9.2% | 76 | 11.7% | 47 | 46.5% |
| Current | 0 | 0% | 156 | 18.7% | 162 | 16.1% | 149 | 3.0% | 54 | 53.5% |

**Supplementary Table S2: Interventions and Medications of STEMI Patients by SMuRF Count**

| Treatments and Medications | SMuRF Count 0 n=919 | | 1 n=834 | | 2 n=1007 | | 3 n=649 | | 4 n=101 | | P-value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % | n | % | |
| PCI performed | 778 | 84.7% | 721 | 86.5% | 897 | 89.1% | 562 | 86.6% | 87 | 86.1% | 0.24 |
| CABG | 58 | 6.3% | 55 | 6.6% | 78 | 7.8% | 65 | 10.0% | 12 | 11.9% | 0.02 |
| **Discharge Medications** | | | | | | | | | | | |
| Beta Blocker | 787 | 85.6% | 699 | 83.8% | 849 | 84.3% | 555 | 85.5% | 79 | 78.2% | 0.31 |
| ACE-I / ARB | 576 | 62.7% | 544 | 65.2% | 678 | 67.3% | 454 | 70.0% | 63 | 62.4% | 0.03 |
| Anticoagulant | 333 | 36.2% | 280 | 33.6% | 339 | 33.7% | 231 | 35.6% | 37 | 36.6% | 0.68 |
| Antiplatelet | 887 | 95.7% | 797 | 95.6% | 968 | 96.1% | 628 | 96.8% | 97 | 96.0% | 0.78 |
| Aspirin | 875 | 95.1% | 787 | 94.4% | 958 | 95.1% | 620 | 95.5% | 96 | 95.0% | 0.88 |
| Calcium channel blocker | 100 | 10.9% | 63 | 7.6% | 126 | 12.5% | 117 | 18.0% | 8 | 7.9% | <0.0001 |

**Supplementary Table S3: Outcomes of NSTEMI Patients by SMuRF Count (with each count compared to no risk factor)**

| | Adj HR (95% CI); p-value | | | |
|---|---|---|---|---|
| | **SMuRF 1 vs 0 count** | **SMuRF 2 vs 0 count** | **SMuRF 3 vs 0 count** | **SMuRF 4 vs 0 count** |
| **60-day Outcomes** | | | | |
| MACE | 1.94 (1.42, 2.64); <0.0001 | 1.40 (1.02, 1.90); 0.0354 | 1.97 (1.46, 2.65); <0.0001 | 2.29 (1.49, 3.52); 0.0002 |
| Death | 1.71 (1.21, 2.42); 0.0022 | 1.25 (0.88, 1.76); 0.2131 | 1.79 (1.29, 2.49); 0.0005 | 1.87 (1.14, 3.08); 0.0140 |
| MI | NA | NA | NA | NA |
| HF Hospitalization | NA | NA | NA | NA |
| **1-year Outcomes** | | | | |
| MACE | 1.78 (1.42, 2.24); <0.0001 | 1.36 (1.08, 1.70); 0.0085 | 2.09 (1.68, 2.59); <0.0001 | 2.53 (1.87, 3.41); <0.0001 |
| Death | 1.70 (1.31, 2.22); <0.0001 | 1.24 (0.96, 1.62); 0.1035 | 1.83 (1.42, 2.35); <0.0001 | 2.28 (1.60, 3.25); <0.0001 |
| MI | 2.41 (1.25, 4.66); 0.009 | 2.55 (1.34, 4.83); 0.0042 | 3.86 (2.08, 7.16); <0.0001 | 3.17 (1.37, 7.32); 0.0069 |
| HF Hospitalization | 1.91 (1.61, 3.14); 0.0107 | 1.17 (0.71, 1.94); 0.5451 | 1.96 (1.22, 3.14); 0.0053 | 3.28 (1.79, 6.04); 0.0001 |
| **Long-term Outcomes** | | | | |
| MACE | 1.47 (1.28, 1.69); <0.0001 | 1.28 (1.11, 1.47); 0.0006 | 1.87 (1.64, 2.14); <0.0001 | 2.20 (1.84, 2.63); <0.0001 |
| Death | 1.38 (1.18, 1.62); <0.0001 | 1.29 (1.11, 1.50); 0.0010 | 1.81 (1.56, 2.10); <0.0001 | 2.24 (1.84, 2.72); <0.0001 |
| MI | 1.73 (1.21, 2.47); 0.0027 | 1.58 (1.11, 2.25); 0.0114 | 2.71 (1.94, 3.79); <0.0001 | 2.64 (1.70, 4.09); <0.0001 |
| HF Hospitalization | 1.54 (1.10, 2.15); 0.110 | 1.25 (0.90, 1.73); 0.1902 | 1.91 (1.40, 2.61); <0.0001 | 2.60 (1.75, 3.86); <0.0001 |

**Supplementary Table S4: Outcomes of STEMI Patients by SMuRF Status with Former Smoking Not Included as a Risk Factor**

| | SMuRF n=2522 | | No SMuRF n=988 | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **n** | **%** | **n** | **%** | **Unadjusted p-values** | **Adj** HR** | **95% CI** | **p-value** |
| **60-day Outcomes** | | | | | | | | |
| MACE | 207 | 8.2% | 74 | 7.5% | 0.52 | 0.93 | (0.71, 1.21) | 0.58 |
| Death | 168 | 6.7% | 67 | 6.8% | 0.87 | 1.02 | (0.77, 1.36) | 0.88 |
| MI | 14 | 0.6% | 4 | 0.4% | 0.58 | NA* | | |
| HF Hospitalization | 26 | 1.0% | 3 | 0.3% | 0.04 | NA* | | |
| **Long-term Outcomes** | | | | | | | | |
| MACE | 795 | 31.5% | 215 | 21.8% | 0.002 | 0.81 | (0.69, 0.94) | 0.005 |
| Death | 631 | 25.0% | 175 | 17.7% | 0.02 | 0.84 | (0.71, 1.00) | 0.05 |
| MI | 175 | 6.9% | 45 | 4.6% | 0.11 | 0.80 | (0.57, 1.11) | 0.18 |
| HF Hospitalization | 123 | 4.9% | 15 | 1.5% | 0.0001 | 0.37 | (0.21, 0.63) | 0.0003 |

Analysis: Cox proportional hazard regression was used to examine outcomes adjusted for baseline differences comparing No SMuRF vs SMuRF.

Adj**= No SMuRF vs SMuRF adjusted for age, sex, ACE-I / ARB, AF, COPD, family history
*NA = no modeling done due to too few outcomes.

ACE-I = angiotensin converting enzyme inhibitors; AF = atrial fibrillation; COPD = chronic obstructive pulmonary disease; HF = heart failure; MACE = major adverse cardiovascular event; MI = myocardial infarction; HR=hazard ratio