

## SUPPLEMENTARY DATA

### Supplementary tables.

| <b>Table 1 of the supplementary data.</b> Adjusted <sup>1</sup> Cox proportional hazard regression analysis for 1-year outcomes using the Agatston method. |                                |                                 |                  |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------|------------------|----------|
|                                                                                                                                                            | Low calcium score <sup>2</sup> | High calcium score <sup>2</sup> | HR (95%CI)P      | <i>P</i> |
| All-cause mortality                                                                                                                                        | 87 (13.9)                      | 70 (11.1)                       | 0.86 (0.76-0.98) | .02      |
| Stroke                                                                                                                                                     | 22 (3.4)                       | 23 (3.5)                        | 1.03 (0.58-1.83) | .93      |
| Pacemaker 1-year                                                                                                                                           | 56 (8.6)                       | 74 (11.4)                       | 1.41 (1.36-1.46) | <.001    |

HR, hazard ratio; CI, confidence interval.

<sup>1</sup>Sex (female), age, New York Heart Association functional class  $\geq$ III, hypertension, diabetes, dyslipidemia, peripheral artery disease, body mass index, coronary artery disease, percutaneous coronary intervention, myocardial infarction, coronary artery bypass graft, cancer, atrial fibrillation, N terminal pro-brain natriuretic peptide, creatinine clearance, aortic valve area, left ventricle ejection fraction, aortic insufficiency  $\geq$ II, mitral insufficiency  $\geq$ II, EuroScore I, high calcium score.

<sup>2</sup>Hounsfield units sex specified: low calcium score (women <2128, men <3369); high calcium score (women >2128, men >3369).

| <b>Table 2 of the supplementary data.</b> Linear correlation between contrast-enhanced calcium volume and the gold standard noncontrast-enhanced CTA |       |                |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------|----------|
| n = 1309                                                                                                                                             | R     | R <sup>2</sup> | <i>P</i> |
| Contrast-enhanced calcium volume mm <sup>3</sup> vs noncontrast-enhanced volume mm <sup>3</sup>                                                      | 0.823 | 0.678          | <.001    |
| Contrast-enhanced calcium volume mm <sup>3</sup> vs Hounsfield units                                                                                 | 0.825 | 0.680          | <.001    |

CTA, computed tomography angiography; mm<sup>3</sup>, cubic millimeter.

| <b>Table 3 of the supplementary data.</b> Agreement between contrast-enhanced calcium volume and the gold standard noncontrast-enhanced CTA |                        |             |          |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------|----------|---------------------|
| n = 1309                                                                                                                                    | Intraclass correlation | 95%CI       | <i>P</i> | Cronbach's $\alpha$ |
| Contrast-enhanced calcium volume mm <sup>3</sup> vs noncontrast-enhanced volume mm <sup>3</sup>                                             | 0.794                  | 0.77-0.813  | <.001    | 0.886               |
| Contrast-enhanced calcium volume mm <sup>3</sup> vs Hounsfield units                                                                        | 0.865                  | 0.776-0.911 | <.001    | 0.940               |

CTA, computed tomography angiography.

| <b>Table 4 of the supplementary data.</b> Sex-specific calcium volume cutoff values based on median values obtained from contrast-enhanced CTA. |                 |                  |                |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------|----------------|----------|
|                                                                                                                                                 | All             | Men              | Women          | <i>P</i> |
| Calcium volume, mm <sup>3</sup>                                                                                                                 | 782 [438; 1231] | 1025 [678; 1550] | 514 [292; 849] | <.001    |

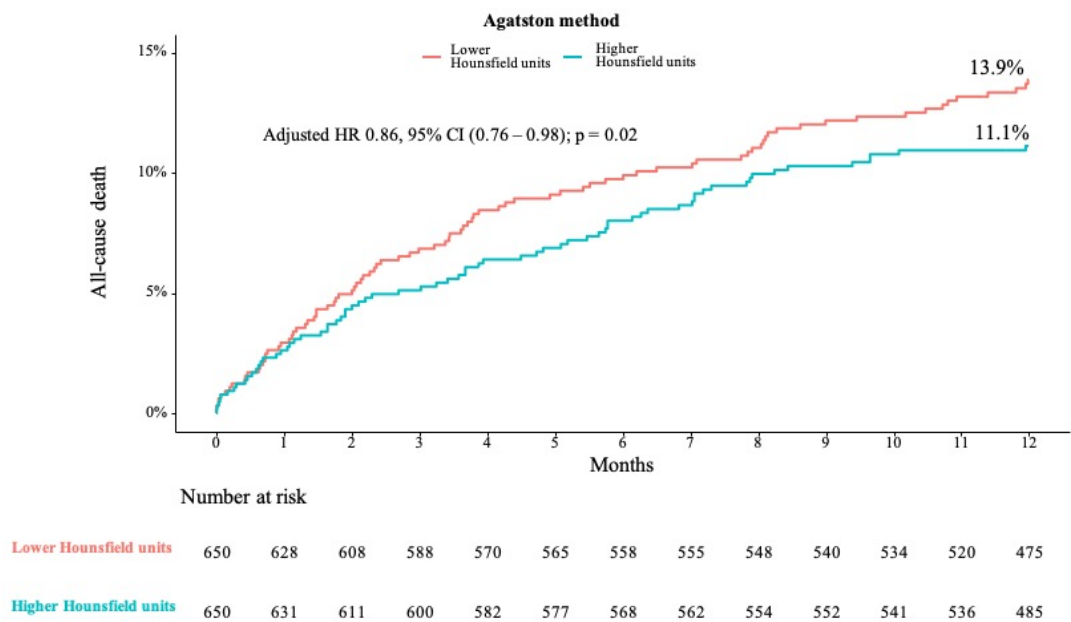
CTA, computed tomography angiography; mm<sup>3</sup>, cubic millimeters.

| <b>Table 5 of the supplementary data.</b> Univariate analysis using sex-specific calcium volume |                     |                      |                  |          |
|-------------------------------------------------------------------------------------------------|---------------------|----------------------|------------------|----------|
|                                                                                                 | Low calcium volume* | High calcium volume* | HR (95%CI)       | <i>P</i> |
| All-cause 30-d mortality                                                                        | 31 (1.9)            | 29 (1.7)             | 0.94 (0.82-1.07) | .31      |
| All-cause 1-year mortality                                                                      | 188 (12.1)          | 138 (8.8)            | 0.73 (0.59-0.89) | .002     |
| Stroke, 30-d                                                                                    | 26 (1.6)            | 29 (1.8)             | 1.07 (0.80-1.44) | .63      |
| Stroke, 1-y                                                                                     | 44 (2.8)            | 43 (2.7)             | 0.99 (0.89-1.11) | .89      |
| Pacemaker, 30-d                                                                                 | 130 (7.8)           | 147 (8.9)            | 1.11 (0.95-1.29) | .18      |
| Pacemaker, 1-y                                                                                  | 148 (9.0)           | 163 (9.9)            | 1.10 (0.84-1.44) | .47      |
| More than moderate aortic/paravalvular insufficiency, 30-d                                      | 12 (1.0)            | 19 (1.5)             | 1.59 (0.76-3.28) | .20      |
| More than moderate aortic/paravalvular insufficiency, 1-y                                       | 11 (1.6)            | 22 (3.1)             | 1.89 (0.91-3.94) | .82      |

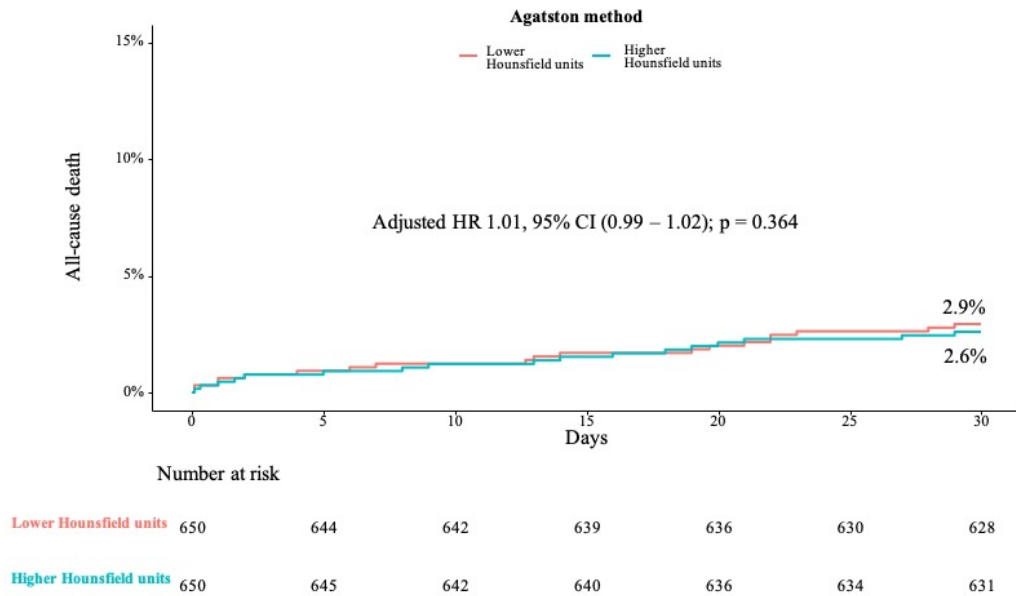
\*Calcium volume sex specified: low (women <514mm<sup>3</sup>, men <1025mm<sup>3</sup>); high (women >514mm<sup>3</sup>, men >1025mm<sup>3</sup>).

**Figure 1 of the supplementary data.** 1-year Kaplan-Meier mortality curve using the Agatston method.

Comparison between lower Hounsfield units (salmon-color line) and higher Hounsfield units (green line). 95%CI, 95% confidence interval; HR, hazard ratio.

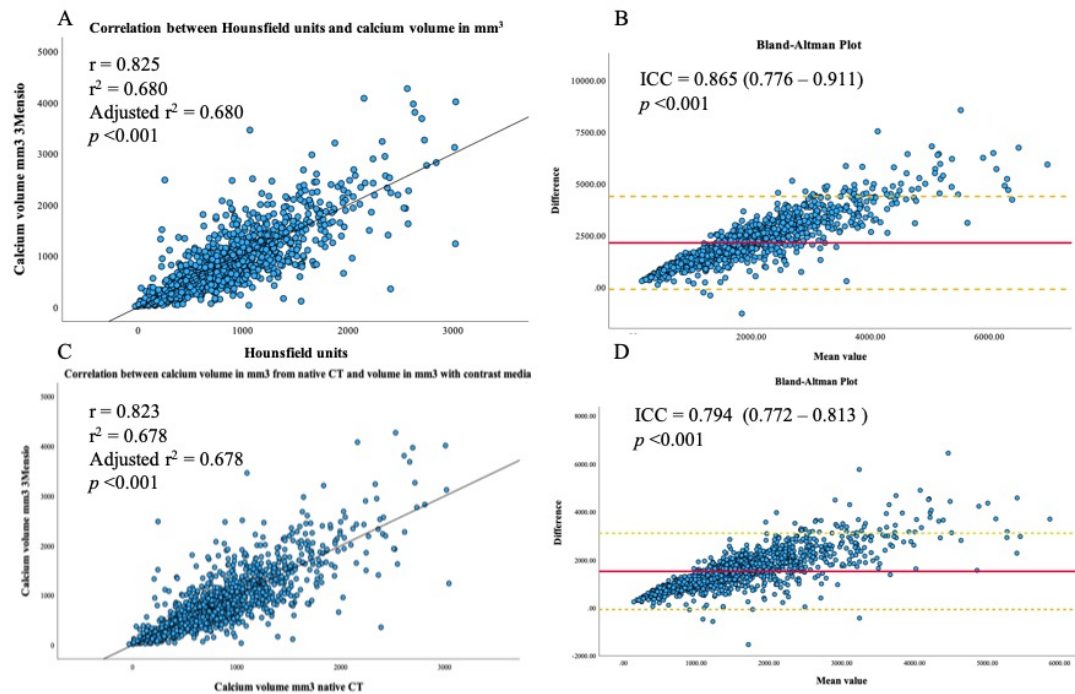


**Figure 2 of the supplementary data.** Thirty-day Kaplan-Meier analysis using the Agatston method. Comparison of patients with lower Hounsfield units (salmon-color line) and higher Hounsfield units (green line) and mortality at 30 days. 95%CI, 95% confidence interval; HR, hazard ratio.



**Figure 3 of the supplementary data.** Computed tomography angiography (angio-CT) correlation analysis.

A) Correlation between noncontrast-enhanced (Hounsfield units) and contrast-enhance (calcium volume in mm<sup>3</sup>) angio-CT ; B) Bland-Altman analysis and intraclass correlation coefficient (with absolute agreement) between noncontrast-enhanced (Hounsfield units) and contrast-enhance (calcium volume in mm<sup>3</sup>) angio-CT; C) Correlation between noncontrast-enhanced (calcium volume in mm<sup>3</sup>) and contrast-enhance (calcium volume in mm<sup>3</sup>) angio-CT; D) Bland-Altman analysis and intraclass correlation coefficient (with absolute agreement) between noncontrast-enhanced (calcium volume in mm<sup>3</sup>) and contrast-enhanced (calcium volume in mm<sup>3</sup>) angio-CT.



**Figure 4 of the supplementary data.** Time-dependent hazard ratio of mortality in patients with high calcium volume in the aortic valve.

