

## D.4 Aortic stenosis – aortic valve area (AVA) on CT

Reference	Clavel 2015 <sup>62</sup>
Study type and analysis	Prospective cohort study Multivariable Cox proportional hazards regression model
Number of participants and characteristics	<p><b>Total n=269</b>            AVA ≤1.2 on MDCT (n=175)            AVA &gt;1.2 (n=94)</p> <p>AVA ≤1.0 on MDCT (n=126)            AVA &gt;1.0 (n=143)</p> <p><b>Inclusion criteria</b>            AS patients who underwent comprehensive Doppler echocardiography and contrast-enhanced MDCT within the same episode of care (&lt;3 months between evaluations).</p> <p><b>Exclusion criteria</b>            Children younger than 18 years of age, patients with identified rheumatic disease or endocarditis, and those with moderate or severe mitral valve disease and/or previous valve repair or replacement.</p> <p><b>Values listed below are presented as mean (SD), median (IQR) or number (%)</b></p> <p><b>Patient characteristics:</b>            Age: 76 (11) years            Male: 61%            Systolic blood pressure, mmHg: 127 (18)            NYHA class ≥3: 45%            Chronic lung disease: 26%            Coronary artery disease: 49%            LVEF: 58 (15) %            AVA: 0.94 (0.32) cm<sup>2</sup></p>

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	<p><b>Population source:</b> Valvular heart disease clinic            Sampling method and time frame unclear            4% lost to follow-up</p>
Prognostic variable	<p>AVA ≤1.2 on MDCT            AVA ≤1.0 on MDCT</p>
Confounders	<p>Age-adjusted Charlson score index, sex, symptoms, mean gradient (<math>\Delta P</math>), and left ventricular ejection fraction.</p>
Outcomes and effect sizes	<p>During a mean follow-up of 2.0 (1.4) years under medical treatment, there were 55 deaths</p> <p><b>Adjusted hazard ratios for mortality under medical treatment (censored at time of AVR)</b>            3.16 (1.64–6.43) for AVA ≤1.2 vs &gt;1.2 on MDCT            1.43 (0.77–2.64) for AVA ≤1.0 vs &gt;1.0 on MDCT</p> <p>Data at 2 years for survival under medical treatment            AVA ≤1.2 on MDCT (n=175) : 51 (6)%            AVA &gt;1.2 (n=94) : 89 (4)%</p> <p>AVA ≤1.0 on MDCT (n=126) : 53 (8)%            AVA &gt;1.0 (n=143) ; 80 (4)%</p> <p>Data at 4 years for survival under medical treatment            AVA ≤1.2 on MDCT (n=175) : 34 (9)%            AVA &gt;1.2 (n=94) : 81 (6)%</p> <p>AVA ≤1.0 on MDCT (n=126) : 32 (11)%            AVA &gt;1.0 (n=143) ; 71 (6)%</p> <p>This finding was confirmed in the entire follow-up (3.2 [2.5 years]), with further adjustment for AVR as a time-dependent variable.</p> <p>Outcome data were obtained from the annual visit of the patient or the patient’s charts, mailed questionnaires or scripted telephone interviews with the patients or physicians, and death certificate</p>

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Comments	<p>Risk of bias:</p> <table border="0"> <tr> <td>1. Study participation</td> <td>HIGH</td> </tr> <tr> <td>2. Study attrition</td> <td>LOW</td> </tr> <tr> <td>3. Prognostic factor measurement</td> <td>LOW</td> </tr> <tr> <td>4. Outcome Measurement</td> <td>LOW</td> </tr> <tr> <td>5. Study confounding</td> <td>LOW</td> </tr> <tr> <td>6. Statistical analysis</td> <td>LOW</td> </tr> <tr> <td>7. Other risk of bias</td> <td>LOW</td> </tr> <tr> <td><b>OVERALL RISK OF BIAS</b></td> <td><b>HIGH</b></td> </tr> </table> <p>Indirectness:</p> <ul style="list-style-type: none"> <li>• None identified</li> </ul>	1. Study participation	HIGH	2. Study attrition	LOW	3. Prognostic factor measurement	LOW	4. Outcome Measurement	LOW	5. Study confounding	LOW	6. Statistical analysis	LOW	7. Other risk of bias	LOW	<b>OVERALL RISK OF BIAS</b>	<b>HIGH</b>
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