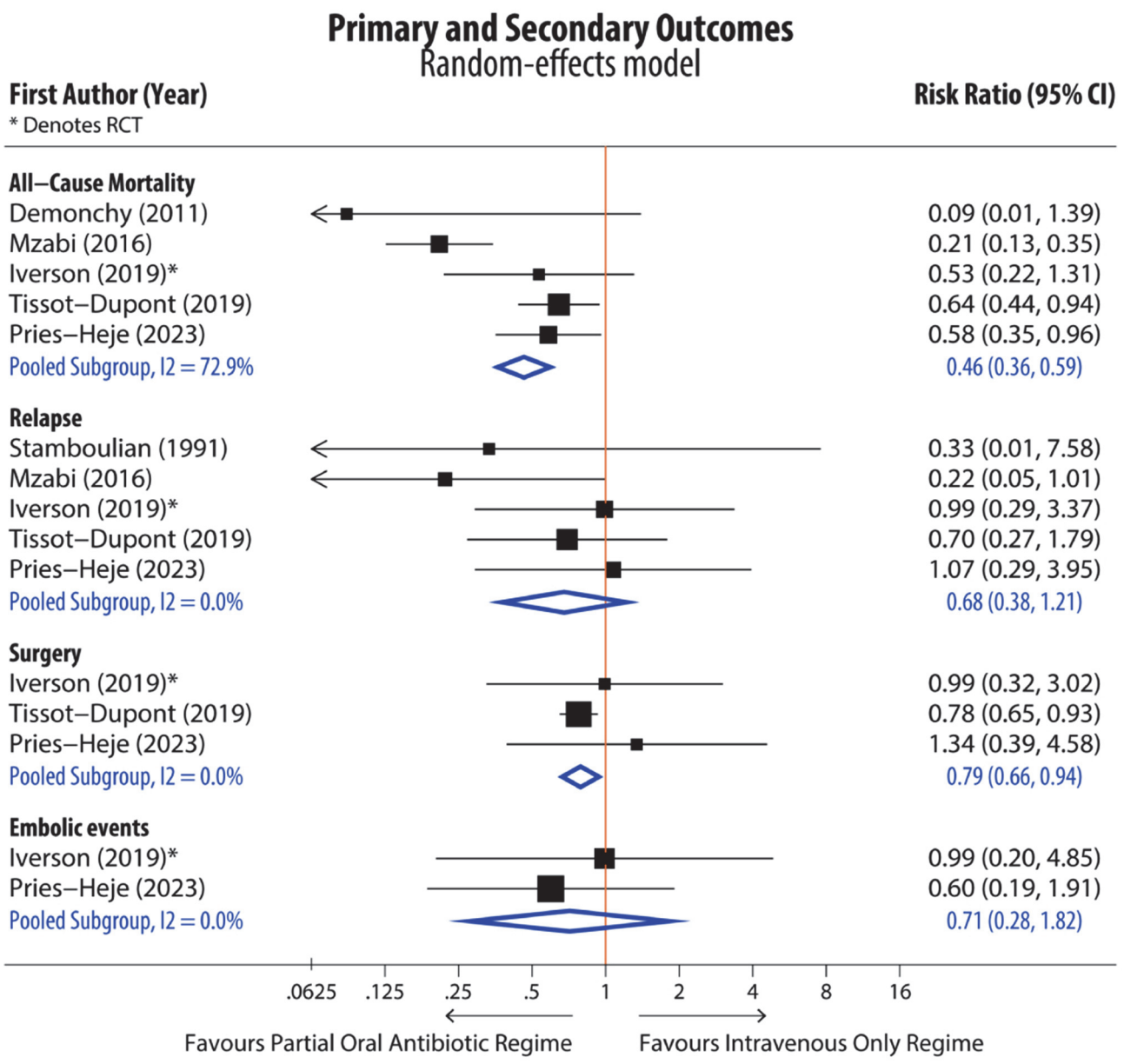

Abstract 19 Figure 2 Forrest Plot

underscores the need for more RCTs and a risk stratification score for patient selection.

Conflict of Interest Nil

20 PERFORMANCE OF GUIDELINE-RECOMMENDED AORTIC VALVE CALCIUM SCORE THRESHOLDS FOR THE DIAGNOSIS OF SEVERE AORTIC STENOSIS IN A DISTRICT GENERAL HOSPITAL POPULATION

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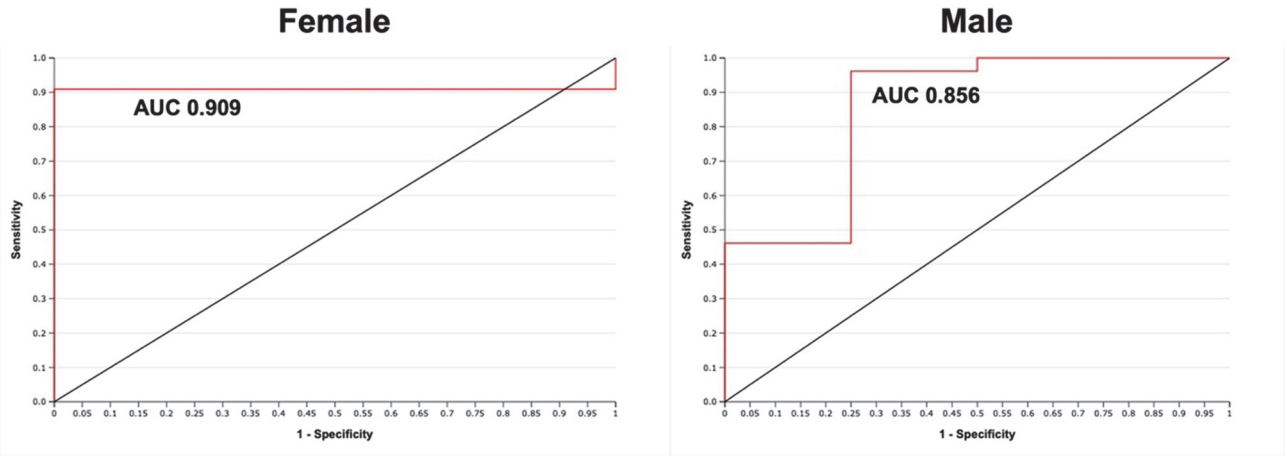
Background Reliable diagnosis of severe symptomatic aortic stenosis (AS), usually assessed with echocardiography, is important to ensure timely intervention. Degenerative AS is associated with fibrocalcific degeneration of the valve cusps, which can be visualised using computed tomography (CT). Computed tomographic aortic valve calcium scoring (CT-AVC) has emerged as a marker of severe AS, and guidelines now provide thresholds for this diagnosis. However, published CT-AVC thresholds vary in the primary literature. We therefore aimed to assess the performance of CT-AVC as a discriminative test for severe AS in a local population of patients with AS.

Methods We performed a single-centre retrospective review of all patients undergoing CT as part of transcatheter aortic valve implantation (TAVI) assessment between 1st October 2021 and 30th September 2023. All patients who underwent a TAVI-CT with a measured CT-AVC Agatston score within 120 days of an echocardiogram providing a concordant assessment of AS severity (i.e. for severe AS, both aortic valve maximum velocity [AV-Vmax] >4 m/s and aortic valve area [AVA] <1 cm2; for non-severe AS, both AV-Vmax <4 m/s and AVA >1 cm2) were included. Patients with discordant echocardiographic AS severity, bicuspid aortic valve, prosthetic valves, or isolated



Abstract 20 Figure 1 Receiver operator characteristic curves (red lines) for females and males assessing the accuracy of computed tomographic aortic valve calcium scoring in diagnosis of aortic stenosis severity when compared against echocardiography. AUC, area under the curve

Abstract 20 Table 1 Characteristics of the study population, grouped by gender. *CT-AVC, computed tomographic aortic valve calcium; LVEF, left ventricular ejection fraction; LVSF; left ventricular systolic function; SD, standard deviation.*

	Male (n=30)	Female (n=23)
Mean age, years ± SD	80.2 ± 9.1	81.1 ± 5.0
Mean CT-AVC score, Agatston Units ± SD	3999 ± 1590	2844 ± 2612
Echocardiographic parameters		
Severe aortic stenosis, n (%)	26 (87)	22 (96)
Non-severe aortic stenosis, n (%)	4 (13)	1 (4)
Preserved LVSF (LVEF >50%), n (%)	25 (83)	22 (96)
Impaired LVSF (LVEF 35-50%)	3 (10)	0
Severely impaired LVSF (LVEF <35%)	2 (7)	1 (4)
Outcomes		
Transcatheter aortic valve implantation, n (%)	19 (63)	10 (43)
Bioprosthetic valve replacement, n (%)	6 (20)	0
Mortality, n (%)	3 (10)	2 (9)

aortic regurgitation, were excluded. Baseline demographic data, CT-AVC, and echocardiographic measurements from the closest study were collected. Guideline-recommended CT-AVC thresholds of 2000 Agatston units (AU) for males and 1200 AU for females were used for calculations of CT-AVC performance for diagnosis of severe AS (sensitivity, specificity, positive predictive value [PPV], negative predictive value [NPV]). Sex-specific receiver-operator characteristic curves were generated to determine the optimal CT-AVC score threshold for severe AS diagnosis.

Results 53 cases were identified (table 1). The majority (91%) had severe or greater AS. In males, CT-AVC >2000 AU had a sensitivity of 0.96 and specificity of 0.50 for severe AS, with a PPV of 0.93 and a NPV of 0.67. In females, CT-AVC >1200 AU had a sensitivity of 0.73 and specificity of 1.0 for severe AS, with a PPV of 1.0 and an NPV of 0.14. The optimal CT-AVC thresholds for severe AS were >886 AU in females (sensitivity 0.91, specificity 1.0) and >1836 AU in males (sensitivity 0.96, specificity 0.75). The overall c-statistic for CT-AVC in diagnosing severe AS was 0.91 in females and 0.86 in males (figure 1).

Conclusion Although we demonstrate that CT-AVC appears to perform well in diagnosing severe AS, we report that the optimal thresholds in our population appear to be lower compared to those in the literature. If this were true, then CT-AVC using current guideline thresholds could lead to underdiagnosis of severe AS. Further studies investigating this, and factors predicting variation in CT-AVC with varying degrees of AS (including subgroups where different thresholds may be appropriate), are needed.

Conflict of Interest None

21 TAVI IMPLANT WITHOUT SECONDARY ARTERIAL ACCESS: EXPERIENCE OF A TERTIARY CENTRE

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Background Transcatheter aortic valve implantation (TAVI) carries a significant risk of vascular complications. Previous studies have found secondary access to account for 10–20% of total vascular complications.[1]

We describe the use of ACCURATE NEO 2 TAVI valve combined with the iSLEEVE expandable introducer to facilitate single access TAVI implantation. Using the primary access, the pigtail catheter can be introduced to the non-coronary cusp (NCC) by a second puncture to the iSLEEVE's haemostatic valve. The pigtail catheter traditionally allows demarcation and subsequent conventional positioning of the valve in relation to NCC cusp height.

We hypothesized the use of single access TAVI may involve significant operator learning curve and thus we describe our centre's experience of single access TAVI implantation.

Methods We collected data on all patients who had undergone this single access TAVI procedure using ACCURATE NEO 2 between May 2023 and February 2024. We describe complexity of implant by describing volume of contrast used, dosage of radiation and screening time of patients. Additionally, we report complications and post-procedural valvular leak.

Results 60 patients underwent attempted single access TAVI procedure: average age 81.6 (± 5.2), 33.3% women (n=20). Average radiation dose was 1192.1cGycm (±538.8), average contrast volume 122.2 ml (±42.8) and average total screening time 10.9 minutes (±3.0). There were 18 complications (30%): PPM (n=6, 10%), limb ischaemia (n=1, 1.7%),