E.5 Aortic stenosis – aortic valve calcium score on CT

Figure 22: Severe aortic valve calcification (≥2065 in AU in men and ≥1274 AU in women) compared to non-severe aortic valve calcification (<2065 AU in men and <1274 AU in women) on CT in at least mild AS under conservative management (27% with heart failure symptoms and mean gradient 35 mmHg)

		Sev	ere AVC No	n-severe AVC	Hazard Ratio		Hazard Ratio					
Study or Subgroup	log[Hazard Ratio]	SE	Total	Total	IV, Fixed, 95% CI			IV, Fixed	I, 95% CI			
1.1.1 Mortality under	conservative treatr	nent - adjust	ed									
Clavel 2014	0.5596	0.2634	410	384	1.75 [1.04, 2.93]							
						<u> </u>		0.5	<u> </u>	! 	Ļ	
						U. I	0.2	0.5	Ι.	2	Э	10
							Favou	rs severe AVC	Favours	non-sever	re AVC	

Figure 23: Severe aortic valve calcium (≥2065 AU for men and ≥1274 AU for women) compared to non-severe AVC (<2065 AU for men and <1274 AU for women) on CT in various AS presentations, including mild-severe with symptom status varying between patients (only includes those where decision on whether to perform an intervention had not been made prior to CT in outcome analysis)

			Hazard Ratio			Hazaro	l Ratio		
Study or Subgroup	log[Hazard Ratio]	SE	IV, Fixed, 95% CI			IV, Fixed	l, 95% CI		
2.1.1 Death or AVR d	luring follow-up - adj	usted							
Pawade 2018 (1)	1.335	0.2884	3.80 [2.16, 6.69]				_	+	
				0.1	0.2	0.5	2	5	10
					Favou	rs severe AVC	Favours non-	severe AVC	,

Footnotes

(1) Number in each group not reported

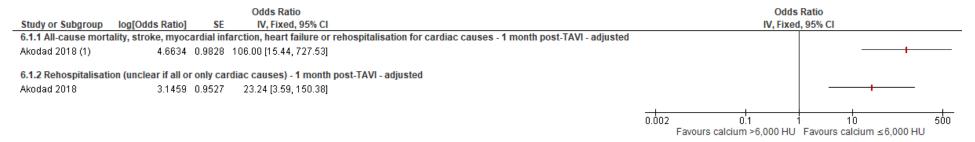
Figure 24: Aortic valve calcium score ≥723 compared to <723 on CT in asymptomatic mild-severe AS (with 45% being severe cases)

		AVCS ≥ 72	Hazard Ratio					
Study or Subgroup	log[Hazard Ratio]	SE Tot	al Total	I IV, Fixed, 95% CI	IV, Fixed, 95% CI			
7.1.1 Cardiac events -	cardiac death, AVR,	non-fatal myocar	lial infarction a	and HF requiring urgent hospitalisation - unadjusted				
Utsunomiya 2013	1.805 0	0.3847 3	2 32	2 6.08 [2.86, 12.92]				
7.1.2 Non-AVR cardia	c events - cardiac de	ath, non-fatal myo	cardial infarcti	ion and HF requiring urgent hospitalisation - unadjusted	sted			
Utsunomiya 2013	1.3056 0	0.4993	2 32	2 3.69 [1.39, 9.82]				
					01 02 05 1 2 5	10		
					Favours AVCS ≥723 Favours AVCS <723	10		

Figure 25: Aortic valve calcium score ≥1266 compared to <1266 on CT in asymptomatic severe AS subgroup

_		AVC S ≥ 1266	AVCS <1266	Hazard Ratio		Hazard	l Ratio	
Study or Subgroup	log[Hazard Ratio]	SE Total	al Total	IV, Fixed, 95% CI		IV, Fixed	I, 95% CI	
8.1.1 Cardiac events	s - cardiac death, AVR	, non-fatal myocardi	al infarction and	I HF requiring urgent hospitalisation - unadjusted				
Utsunomiya 2013	0.5365	0.4504 1	4 15	1.71 [0.71, 4.13]		-		
				and HF requiring urgent hospitalisation - unadjusted	I			
Utsunomiya 2013	1.1249	0.6584 1	4 15	3.08 [0.85, 11.19]		T	<u> </u>	
					0.01	0.1 1	i 1'0	100
					Favor	irs AVCS > 1266	Favours AVCS < 1266	

Figure 26: Calcium score >6,000 HU vs. ≤6,000 HU on CT in undergoing those undergoing TAVI for AS (>50% NYHA class ≥3 and mean gradient consistent with severe AS)



<u>Footnotes</u>

(1) Number in each group not reported

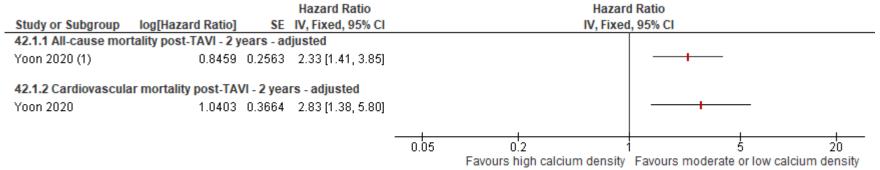
Figure 27: Calcium score >2027 compared to ≤2027 AU on CT in low-flow low-gradient severe AS undergoing surgical AVR

		C	Calcium >2027 AU Calcium	≤2027 AU	Hazard Ratio		Hazaro	d Ratio			
Study or Subgroup	log[Hazard Ratio]	SE	Total	Total	IV, Fixed, 95% CI		IV, Fixed	IV, Fixed, 95% CI			
2.1.1 Mortality post-	AVR - 30 days - unadj	usted									
Aksoy 2014	0	1.1748	10	11	1.00 [0.10, 10.00]				-		
						0.05	0.2	i ģ	2'0		
							Favours calcium >2027 AU	Favours calcium ≤202	7 AU		

Figure 28: Aortic valve calcium score ≥1200 in women and ≥2000 AU in men compared to <1200 and <2000 on CT in low-gradient severe AS undergoing TAVI

		(Calcium ≥ 1200 or ≥ 2000 AU	Calcium <1200 or <2000 AU	Hazard Ratio		Haza	rd Ratio		
Study or Subgroup	log[Hazard Ratio]	SE	Total	Total	IV, Fixed, 95% CI		IV, Fixe	ed, 95% CI		
40.1.1 Mortality post-TA	VI - 1 year - adjusted	1								
Fischer-Rasokat, 2020	0.2776	0.2743	428	222	1.32 [0.77, 2.26]		_	++-		
						0.05	0.2	1	5	20
						Favours cal	cium ≥1200 or ≥2000 AU	J Favours calcium	<1200 or <2000	0 AU

Figure 29: Aortic valve leaflet calcification >382 mm³ compared to ≤382 mm³ on CT in symptomatic severe AS



Footnotes

(1) Numbers in each group not stated

Figure 30: Aortic valve calcium density tertiles on CT (highest vs other tertiles) in severe AS undergoing TAVI

		Hi	High calcium density Moderate or low calcium density		Hazard Ratio	Hazard Ratio				
Study or Subgroup	log[Hazard Ratio]	SE	Total	Total	IV, Fixed, 95% CI		IV, Fixed	I, 95% CI		
41.1.1 LFLG AS: Mort	ality post-TAVI - 3 year	rs - adjus	sted							
Ludwig 2020	-0.3147 0.	.1001	98	192	0.73 [0.60, 0.89]		+			
41.1.2 Paradoxical L	FLG AS: Mortality post-	-TAVI - 3	years - adjusted							
Ludwig 2020	-0.0943 0.	.1125	79	157	0.91 [0.73, 1.13]		-+	_		
							1			
						0.05	0.2	5		20
							Favours high calcium density	Favours moderate o	r low calcium d	ensity