Hypothesis for the increased rate of thromboembolic and microembolic complications following abdominal aortic aneurysm repair in women

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Disclosures

None

Rationale & aim

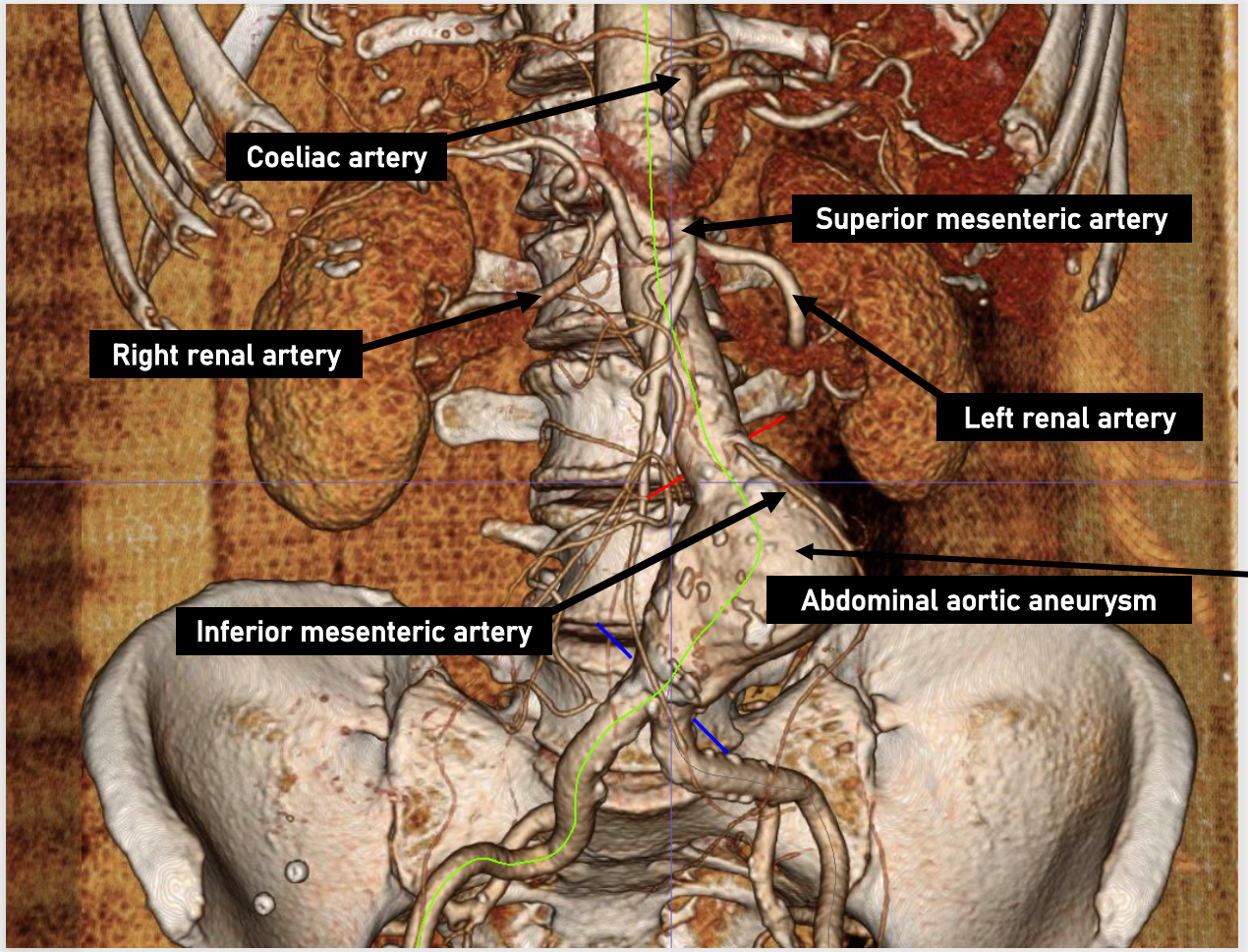
- Women have significantly higher rates of thromboembolic complications, including bowel ischaemia, renal dysfunction & myocardial infarction after AAA repair compared with men

- The aim was to identify whether the morphology of the visceral arteries & aortic thrombus is different in men and women

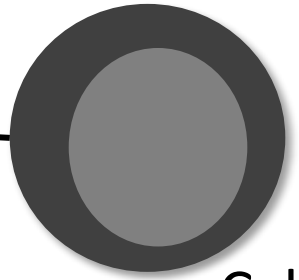
Retrospective case-control study

- All infrarenal AAA repairs at St Mary's Hospital 2014-2020 with CT scans available
- 48 women with adequate CT scans, mean age 75.8 years, 32 EVAR, 16 open repairs
- Matched to 96 men, mean age 77.3 years, 64 EVAR, 32 open (also matched for, smoking, comorbidities & AAA diameter from pool of 308 men)

Analysis of CT scans: for diameter, disease & tortuosity of visceral arteries, aortic wall & thrombus characteristics of the aneurysm

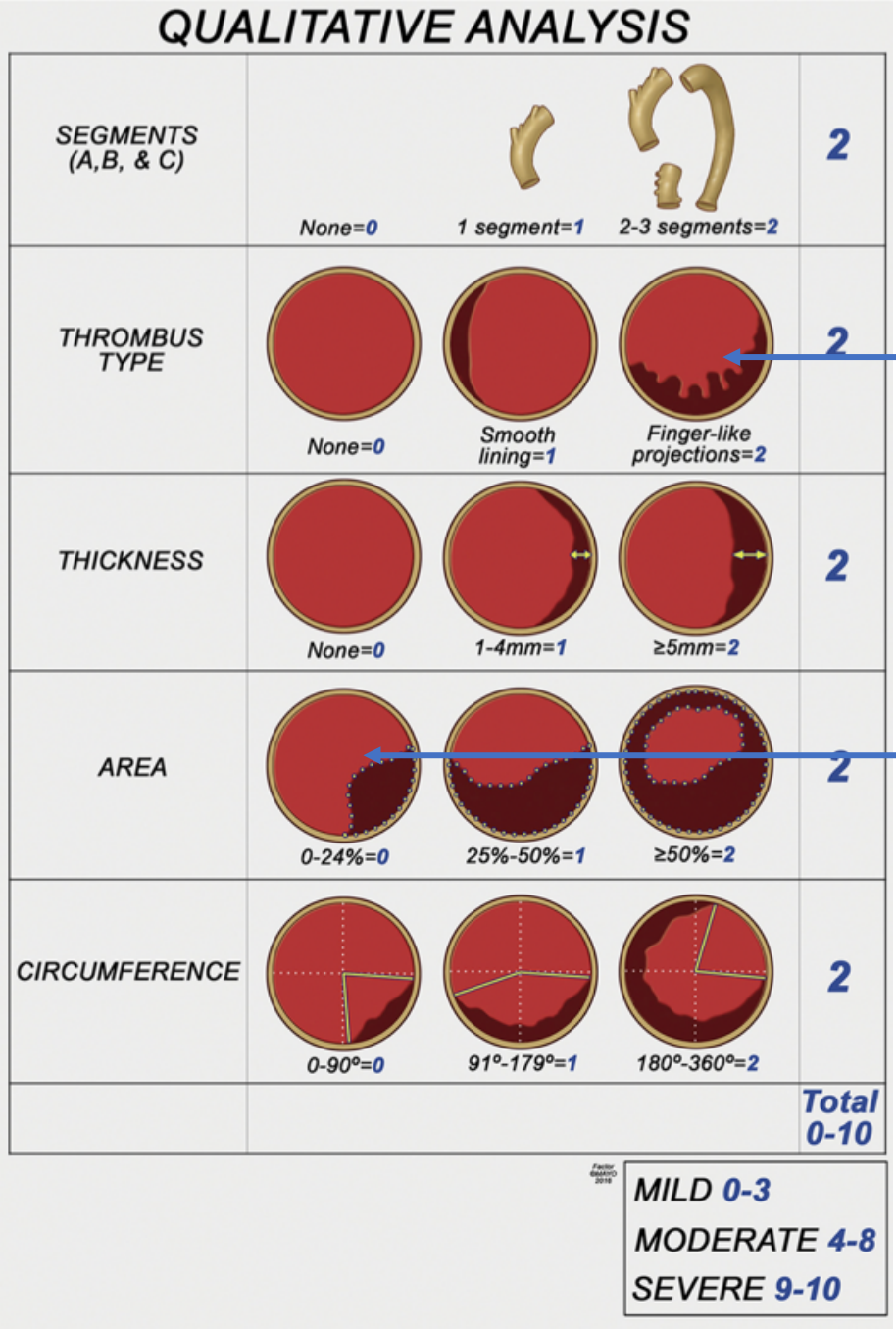


Two trained observers
Vitrea workstation



Calcification
Thrombus – according to Ribero et al JVS 2017;66: 1321-1333

Visceral artery diameters & tortuosity	men N=96	women N=48	P value
Coeliac artery			
median diameter at 20 mm (mm)	7.87	6.45	<0.001
tortuosity	1.04	1.06	
Superior mesenteric artery			
median diameter at 20 mm (mm)	7.64	6.44	<0.001
tortuosity	1.01	1.06	0.045
Left renal artery			
median diameter at 20 mm (mm)	5.51	4.75	<0.001
tortuosity	1.04	1.09	0.018
Inferior mesenteric artery			
median diameter at 20 mm (mm)	3.31	2.83	0.014
tortuosity	Occluded in 19 women versus 24 men		



Ribero thrombus classification

Finger-like projections
31% men, 56% women

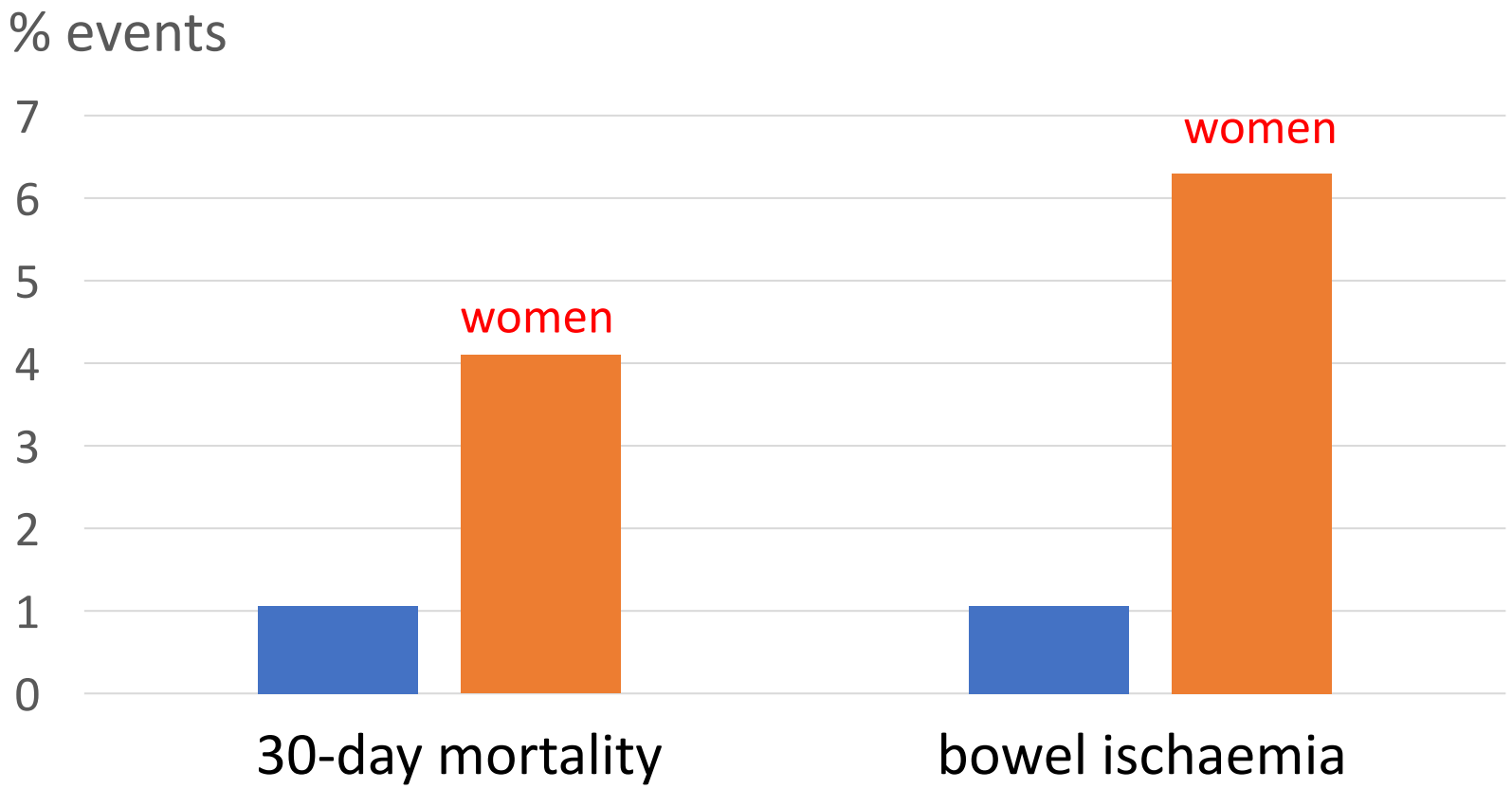
Covers <25% area
50% men, 31% women

Median otal score
6 in men, 8 in women

Visceral arteries in women vs men are

- 15-20% smaller in diameter & slightly more tortuous
- SMA is more often occluded
- Thrombus burden is higher (area & finger-like projections)
- Not different for calcification or atherosclerosis

Bowel ischaemia & 30-day mortality



Hypothesis from this pilot study

- “the nature of the aortic wall thrombus together with narrower, more tortuous arteries of organ supply cause an increased rate of thromboembolic and micro-embolic complications following AAA repair in women”

- *RJVES 2022;63:348-9*