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P128: COMPARISON OF AUGMENTATION INDEX OBTAINED FROM HEM-9000AI AND MOBIL-O-GRAPH IN JAPANESE NORMOTENSIVE INDIVIDUALS

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(continued)

		Univariate analysis of aortic dilation		Multivariate analysis of aortic dilation			
		Odds Ratio	P-value	Root morphotype		Ascending morphotype	
				Odds Ratio	P-value	Odds Ratio	P-value
Dist	Displacement	2.46	0.002				
	IRF	1.01	0.007				
	SFRR (%)	1.20	0.001			1.2	<0.001
	WSS _{axial}	1.21	0.05				
	WSS _{Circumf}	2.43	0.02			2.23	0.037
	IRF	1.01	0.026			1.10	0.026
	WSS _{Circumf}	1.49	0.05				
	SFRR (%)	1.10	0.005				

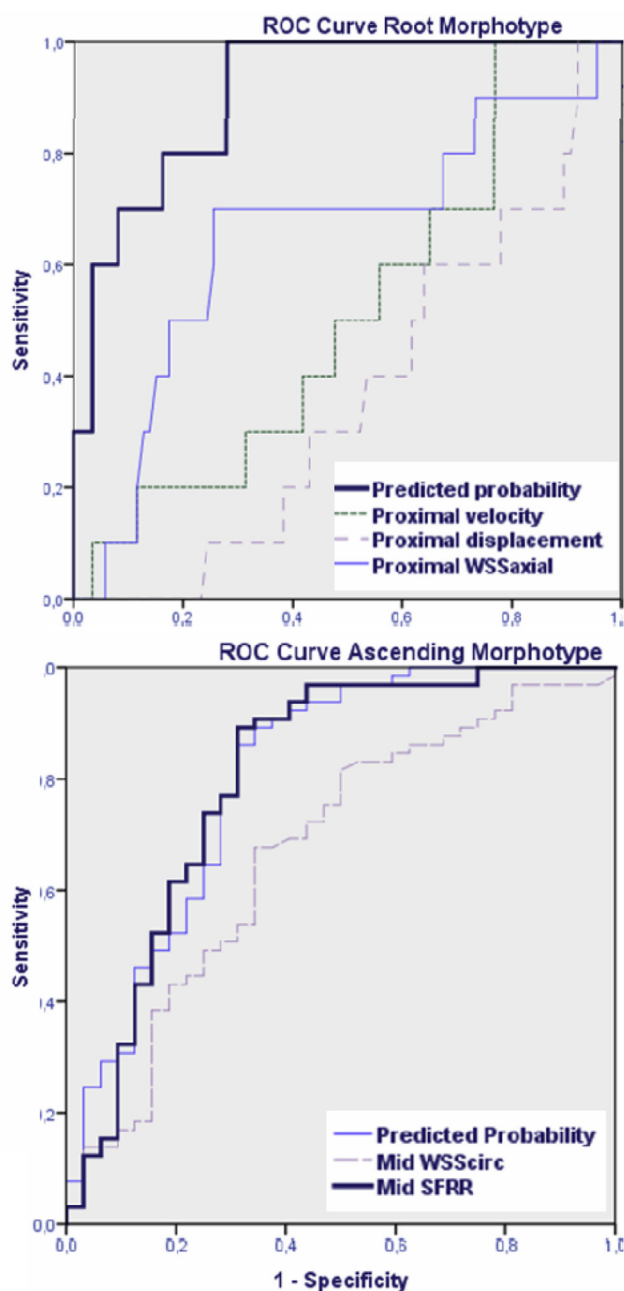


Figure. ROC curves showing flow variables related to aortic dilation morphotypes.

Conclusions: Different altered flow parameters are related to root and ascending morphotypes in BAV. Further longitudinal studies are warranted to evaluate the impact of these flow parameters in determining the risk for aortopathy.

References

1. Mahadevia R, Barker AJ, Schnell S, Entezari P, Kansal P, Fedak PWM, et al. Bicuspid aortic cusp fusion morphology alters aortic three-dimensional outflow patterns, wall shear stress, and expression of aortopathy. *Circulation*. 2014;129(6):673–82.
2. Della Corte A, Bancone C, Dialeto G, Covino FE, Manduca S, Montibello M V, et al. The ascending aorta with bicuspid aortic valve: a phenotypic classification with potential prognostic significance. *Eur J cardio-thoracic Surg*. 2014;46(2):240–7.

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COMPARISON OF AUGMENTATION INDEX OBTAINED FROM HEM-9000AI AND MOBIL-O-GRAPH IN JAPANESE NORMOTENSIVE INDIVIDUALS

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Background: HEM-9000AI (HEM) is an established device for measurement of radial augmentation index (rAlx) used by applanation tonometry in Japan. Mobil-O-Graph (MOG) is a cuff-based oscillometric device for assessment of central aortic Alx (cAlx) and the usefulness to Europeans has been reported. We compared the Alx between HEM and MOG in Japanese normotensive subjects.

Methods: We enrolled 106 normotensive volunteers (47 male, 21 to 79 years). The left radial arterial waveform was recorded with the HEM. MOG were taken on the left arms, which arm circumferences (ACs) were measured to allow the correct choice of cuff (two sizes available; 20–24 and 24–32 cm). We performed multiple regressions for Alx and key variables in HEM and MOG.

Results: The ACs in M and F were 25.7 ± 1.9 (mean $\pm$ SD) cm and 23.5 ± 2.1 cm, respectively. Both rAlx ($70.5 \pm 15.3\%$ vs $83.6 \pm 11.9\%$, $p < 0.001$) and cAlx ($17.2 \pm 7.3\%$ vs $29.7 \pm 9.8\%$, $p < 0.001$) in M were smaller than those in F. Multiple regression analysis revealed that cAlx in M ($R^2 = 0.5176$) was significantly associated with age ($\beta = 0.17$, $p = 0.004$) and cuff size ($p = 0.001$). cAlx obtained using the smaller cuff was significantly increased compared to the larger cuff ($25.1 \pm 5.9\%$ vs $14.8 \pm 5.9\%$). In F, cAlx ($R^2 = 0.2245$) tended to be associated with age ($\beta = 0.16$, $p = 0.072$) and was significantly associated with height ($\beta = -0.62$, $p = 0.007$) and heart rate ($\beta = -0.26$, $p = 0.0029$).

Conclusions: The brachial cuff-based waveform recordings are useful for Japanese normotensive individuals. However, the mean AC is close to the bound of two cuff sizes and the measurement of lower cAlx using the larger cuff is less sensitive.

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SHORT-TERM REPEATABILITY OF NON-INVASIVE AORTIC PULSE WAVE VELOCITY MEASURES

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Objective: To compare the short-term repeatability of aortic pulse wave velocity (PWV) measures obtained with non-invasive devices.