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Arterial stiffness measured with pOpmètre® in primary anti-phospholipids syndrome.

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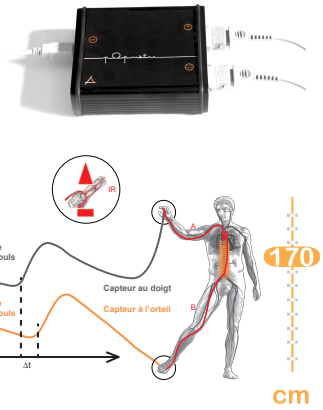
Background: Arterial stiffness (AS) is an independent predictor of cardiovascular events. It can be estimated easily by a new technique: **pOpmètre®** - Axelife SAS, France. Measurement and results are obtained within 2 minutes. There is data that suggest an increase in arterial stiffness in antiphospholipids syndrome (APS) patients.

Aim: To study the relationship between the **pOpmètre®** indices, the carotid intima-media thickness and the arterial stiffness measured by Doppler ultrasound, and the relationship with the anti-phospholipids antibody levels and ageing in patients with primary APS compared with controls with an history of deep vein thrombosis.

Methods: Carotid arterial stiffness and intima-media thickness (IMT) were determined by Doppler ultrasound in 20 patients with APS and 20 controls with a distal deep vein thrombosis history. For all participants the AS was assessed by aortic impedance meter (Physioflow® Esaote, Italy) and by foot to toe pulse wave velocity ftPWV **pOpmètre®**, which measures the transit time between toe and finger, the ftPWV according to a height chart. The blood pressure and systolic pressure index (SPI) were measured. The aPL antibody titers were collected in patients.

	SAPL	Controls	P
pOpmètre® indices	**N = 20**	**N = 20**	
PWVft (m/s)	**13.2 ± 0.9**	**10.5 ± 0.6**	**<0.004**
PWV Impedance	10.3 ± 0.6	8.1 ± 0.6	<0.02
SPI	1.15 ± 0.04	1.12 ± 0.03	Ns
IMT (nm)	0.59 ± 0.02	0.53 ± 0.01	0.004



Results: The two groups were comparable for brachial blood pressure and ABPI (1.15 ± 0.04 vs 1.12 ± 0.03, ns), as well as the age. The APS group had a greater IMT (0.59 ± 0.02 versus 0.53 ± 0.01 mm, p <0.004). AS impedance (10.3 ± 0.6 versus 8.1 ± 0.6 m / s, p <0.02) and **pOpmètre®** ftPWV (13.2 ± 0.9 vs 10.5 ± 0.6 m/s; p <0.004) was increased in the APS group. Age correlated with systolic blood pressure (SBP) (r2 = 0.1; p = 0.002), AS (r2 = 0.11, p = 0.002), **pOpmètre®** ftPWV (r2 = 0.23; p <10-4), IMT (r2 = 0.16; p = 0.0003), not with the SPI (r2 = 0.03; p = 0.06). No correlation was found between with age and aPL.

Conclusion:

In the APS patients, the arterial stiffness measured by pOpmètre® is increased compared with controls and correlated with arterial stiffness and IMT measured by Doppler ultrasound.