Impact of cardiovascular risk factors on arterial stiffness in a countryside area of Switzerland - insights from the Swiss Longitudinal Cohort Study

Lucrezia **Pusterla**[1], Dragana **Radovanovic**[1], Franco **Muggli**[1], Paul **Erne**[1], Andreas W. **Schoenenberger**[2,3], Renate **Schoenenberger-Berzins**[4], Gianfranco **Parati**[5], Paolo **Suter**[6], Sebastiano A.G. **Lava**[7,8], Augusto **Gallino**[9], Mario G. **Bianchetti**[1]

[1] Family Medicine Institute, Faculty of Biomedical Science, Università della Svizzera italiana, Lugano, Switzerland;

[2] Department of Geriatrics, Inselspital, Bern University Hospital, and University of Bern, Bern, Switzerland;

[3] Medizinische Klinik, Kantonsspital Münsterlingen, Switzerland;

[4] Herzzentrum, Kantonsspital, Luzern, Switzerland;

[5] Istituto Auxologico Italiano, IRCCS, Cardiology Unit and Department of Cardiovascular, Neural and Metabolic Sciences, San Luca Hospital, Milano & Department of Medicine and Surgery, University of Milano-Bicocca, Milano, Italy;

[6] Department of Internal Medicine, University Hospital Zurich and University of Zurich, Switzerland;

[7] Pediatric Cardiology Unit, Department of Pediatrics, Centre Hospitalier Universitaire Vaudois and University of Lausanne, Lausanne, Switzerland;

[8] Heart Failure and Transplantation, Department of Pediatric Cardiology, Great Ormond Street Hospital, London, UK

[9] Cardiovascular Research, San Giovanni Hospital, EOC, Bellinzona, Switzerland.

Address for correspondence:
Dr. Sebastiano A.G. Lava, MD MSc
Pediatric Cardiology Unit, Department of Pediatrics
Centre Hospitalier Universitaire Vaudois and University of Lausanne
Rue du Bugnon 46
1011 Lausanne, Switzerland.
webmaster@sebastianolava.ch

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Supplementary Table S1. Pearson correlation (left) and simple linear regression (right) between pulse wave velocity (Y) and clinical baseline characteristics (x) of the SWICOS study participants. In simple linear regression, goodness of fit is quantified with R^2, while the P-value investigates whether the slope is significantly different from zero.

	Correlation		Simple linear regression		
	r	**P-value**	**Equation**	**R^2**	**P-value**
Clinical characteristics					
Age [years]	0.69	<0.0001	Y = 0.076*x + 4.50	0.39	<0.0001
Weight [kg]	0.14	0.0056	Y = 0.016*x + 7.05	0.014	0.017
Height [m]	-0.20	0.0001	Y = -0.05*x + 16.59	0.053	<0.0001
Body mass index [kg/m^2]	0.31	<0.0001	Y = 0.14*x + 4.63	0.093	<0.0001
Waist circumference [cm]	0.35	<0.0001	Y = 0.049*x + 3.76	0.098	<0.0001
Systolic blood pressure [mmHg]	0.46	<0.0001	Y = 0.049*x + 1.83	0.22	<0.0001
Diastolic blood pressure [mmHg]	0.39	<0.0001	Y = 0.063*x + 3.11	0.12	<0.0001
Mean arterial pressure[mmHg]	0.45	<0.0001	Y = 0.068*x + 1.58	0.19	<0.0001
Heart rate [bpm]	0.23	<0.0001	Y = 0.034*x + 5.87	0.038	0.0002

Laboratory characteristics *					
LDL-cholesterol§ [mmol/L]	0.1969	0.0001	Y = 0.2507*x + 7.343	0.0160	0.014
Triglycerides [mmol/L]	0.2766	<0.0001	Y = 0.3142*x + 7.724	0.0280	0.0011
Hemoglobin A1c [%]	0.4346	<0.0001	Y = 0.9720*x + 2.995	0.1195	<0.0001

* N=380 (202 females and 178 males). § LDL = Low Density Lipoprotein

Supplementary Table S2. Multiple linear regression analysis (sensitivity analysis integrating mean arterial pressure instead of systolic blood pressure). Association between arterial stiffness (as assessed by pulse wave velocity) and several cardiovascular risk factors in 387 study participants. Statically significant associations are given in bold.

	Pulse Wave Velocity (m/s)		
	Linear Regression Coefficient	**95% CI**	**P-value**
Age	0.06	0.05-0.07	**<0.001**
Female sex	0.86	0.53-1.18	**<0.001**
Brachial mean blood pressure	0.01	0.002-0.03	**0.022**
LDL-cholesterol*	0.006	-0.15-0.16	0.94
Triglycerides	0.07	-0.10-0.23	0.41
Hemoglobin A1c	0.12	-0.13-0.37	0.34
Smoking	0.11	-0.26-0.48	0.56
Body mass index	0.07	0.02-0.11	**0.002**
Heart rate	0.02	0.005-0.006	**0.005**

*LDL = Low Density Lipoprotein

Supplementary Table S3. Multiple logistic regression analysis (sensitivity analysis using logistic regression and systolic arterial pressure). Association between pulse wave velocity >10m/s (outcome) and several cardiovascular risk factors in 387 study participants. Statically significant associations are given in bold.

	Pulse Wave Velocity >10 m/s		
	Odds ratio	**95%-CI for Odds ratio**	**P-value**
Age	**1.10**	1.06-1.14	**<0.001**
Female sex	**5.95**	2.47-14.34	**<0.001**
Brachial systolic blood pressure	**1.03**	**1.01-1.05**	**0.006**
Hyperlipidemia	1.55	0.64-3.80	0.25
Triglycerides	0.96	0.62-1.50	0.87
Hemoglobin A1c	1.57	0.72-3.42	0.25
Smoking	1.57	0.60-4.12	0.36
Body mass index >30 kg/m^2	**3.39**	1.27-9.06	**0.015**
Heart rate	1.04	1.00-1.07	0.053

Supplementary Table S4. Multiple logistic regression analysis (sensitivity analysis using logistic regression and mean arterial pressure). Association between pulse wave velocity >10m/s (outcome) and several cardiovascular risk factors in 387 study participants. Statically significant associations are given in bold.

	Pulse Wave Velocity >10 m/s		
	Odds ratio	**95%-CI for Odds ratio**	**P-value**
Age	**1.11**	1.07-1.15	**<0.001**
Female sex	**5.47**	2.26-13.25	**<0.001**
Brachial mean blood pressure	1.01	0.98-1.04	0.51
Hyperlipidemia	1.69	0.69-4.11	0.25
Triglycerides	0.99	0.63-1.55	0.97
Hemoglobin A1c	1.67	0.81-3.48	0.17
Smoking	1.49	0.57-3.90	0.42
Body mass index >30 kg/m^2	**3.76**	1.40-10.10	**0.009**
Heart rate	**1.04**	1.00-1.07	**0.04**