

Breastfeeding protects against subclinical atherosclerosis after menopause

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Introduction. The purpose of this study was to elucidate the association between the individual history of lactation and incident subclinical atherosclerosis and arterial stiffness in postmenopausal women.

Patients and Methods. This cross-sectional study involved 283 postmenopausal women. A possible association of sonographically assessed indices of vascular function [pulse wave velocity (PWV)] and vascular structure [intima-media thickness (IMT), atherosclerotic plaque presence] and history and duration of lactation was investigated.

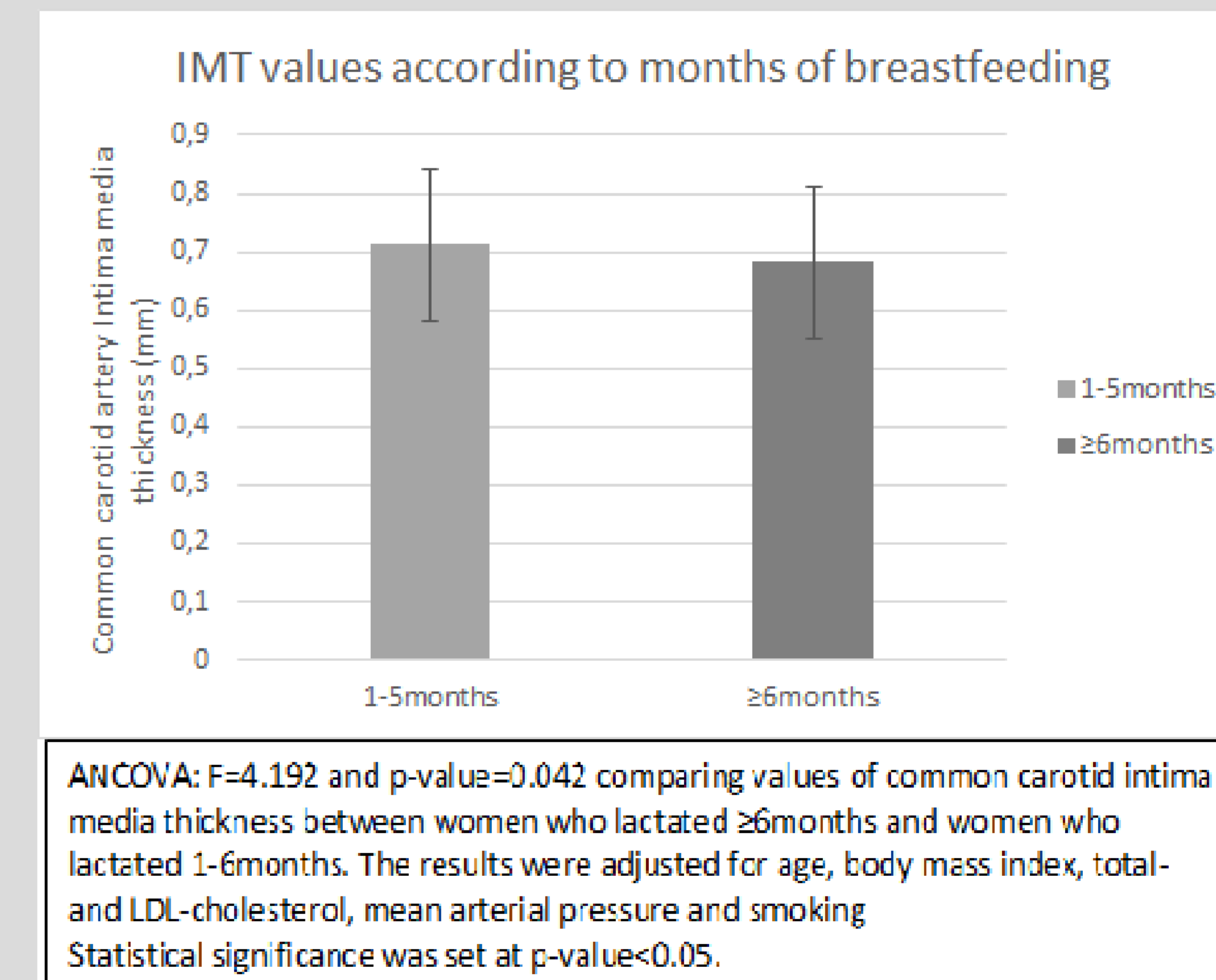
	Mean±SD or Frequency	Minimum	Maximum
Anthropometrical characteristics			
Age (years)	55.4±5.9	23.0	75.0
YSM (years)	6.77±5.64	1.00	34.0
BMI (kg/m ²)	26.6±4.37	17.6	45.7
WHR	0.84±0.07	0.63	1.03
Systolic blood pressure (mmHg)	119.5±16.5	80	180
Diastolic blood pressure (mmHg)	75.0±10.5	40	110
LDL cholesterol (mg/dL)	140.6±35.6	65.0	240.0
HDL cholesterol (mg/dL)	62.5±14.8	25.0	111.0
Triglycerides (mg/dL)	89.0±41.0	35.0	343.0
Cholesterol (mg/dL)	226.9±37.2	119.0	322.0
Obstetrical characteristics			
Births*	1.76±0.99	0	4
• No children	14.8% (42/283)		
• 1 child	16.6% (47/283)		
• 2 children	48.4% (137/283)		
• 3 children	16.9% (48/283)		
• 4 children	3.2% (9/283)		
Lactation (months)	5.68±8.83	1	80
Abortions (1 ore more)	21.9% (62/283)		
Vascular indices			
<i>Structural indices</i>			
Combined-IMT (mm)	0.74±0.12	0.50	1.10
CCA-IMT (mm)	0.69±0.13	0.40	1.20
CB-IMT (mm)	0.86±0.19	0.40	1.50
ICA-IMT (mm)	0.66±0.17	0.40	1.20
FA-IMT (mm)	0.65±0.22	0.30	1.60
<i>Atherosclerotic plaque presence</i>			
Combined PLQ	16.3% (46/283)		
Femoral PLQ	12.0% (34/283)		
<i>Functional indices</i>			
PWV (m/s)	8.76±1.57	5.50	15.10
<i>Subclinical atherosclerosis</i>			
	42.7% (121/283)		

Results

	Model R ²	b-coefficient	95% CI	p-value
Pulse wave velocity (m/s)	14.3%			
Lactation (months)		-0.127	-0.171 to 0.001	0.038
Age (years)		0.217	0.026 to 0.392	<0.001
BMI (years)		0.152	0.007 to 0.199	0.017
Smoking		-0.083	-0.770 to 0.086	0.179
LDL-cholesterol (mg/dL)		0.019	-0.012 to 0.047	0.757
MAP (mmHg)		0.220	0.012 to 0.345	0.001

BMI=body mass index; LDL=Low density lipoprotein; MAP=mean arterial pressure. Bold indicates statistical significance which was set at the level of p-value<0.05.

◆ PWV was reversely associated with the duration of lactation (b-coef=-0.127, p=0.038), independently of age, BMI, LDL-cholesterol levels, smoking and arterial pressure.



◆ Women with a history of more than 6 months lactation presented significantly decreased mean common carotid IMT in comparison with women who had lactated for 1 to 6 months (0.72 ± 0.13 mm vs 0.68 ± 0.13 mm, F=4.267, p=0.041), independently of other established cardiovascular risk factors.

Conclusions.

◆ Decreased arterial stiffness and atherosclerosis was identified in postmenopausal women with history of lactation, even after adjustment to other traditional cardiovascular risk factors.

◆ If causality is confirmed, these findings may indicate a protective effect of lactation against subclinical atherosclerosis in later life.

YSM=menopausal age; BMI=body mass index; IMT=intima media thickness; CCA=common carotid artery; CB=carotid bulb; ICA=internal carotid artery; FA=femoral artery; PLQ=plaques; PWV=pulse wave velocity