The Evaluation of Subclinical Atherosclerosis in Rosacea Patients by Thickness of Carotid Intima and Serum Lipid Profile

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Introduction

Rosacea is a chronic inflammatory dermatosis that causes facial erythema, papules and pustules in the centrofacial area. Rosacea may initiate dysfunction of the endothelial cells which is an early predictor of atherosclerosis by causing systemic inflammatory changes. In the present study, we aimed to investigate the potential relationship between rosacea and subclinical atherosclerosis.

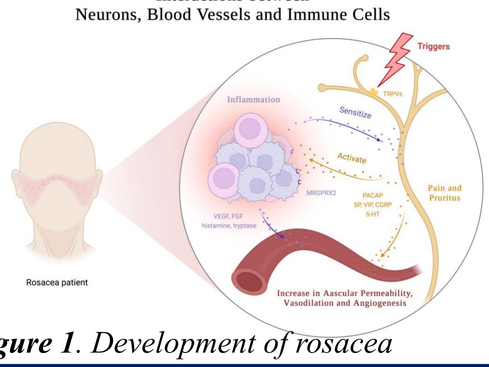

***Figure 1**. Development of rosacea*

Methods

Fourteen rosacea patients and fourteen age, gender-matched healthy volunteers were included in this study. Patients with known cardiovascular disease and pregnant women were excluded. Demographic data, alcohol, smoking history, physical activity frequency, family history of cardiovascular disease and anthropometric measurements were recorded. Systolic and diastolic blood pressures were measured and total cholesterol, high-density lipoprotein (HDL), low-density lipoprotein (LDL), triglyceride levels were assessed. Framingham Risk Score for Coronary Heart Disease was calculated for all participants. Carotid intima-media thickness (CIMT) and flow velocity measurements for both common carotid arteries were performed ultrasonographically by the same radiologist.

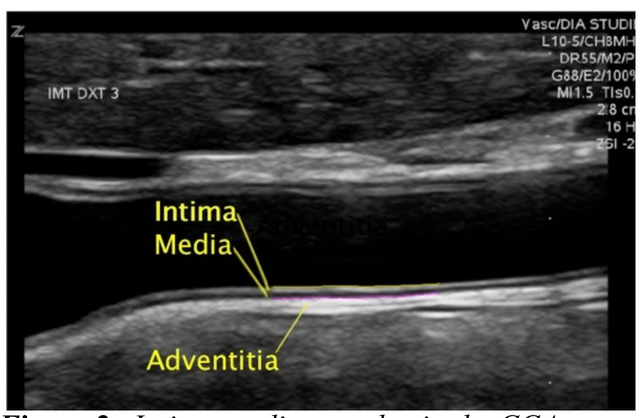

***Figure 2.** Intima-media complex in the CCA.*

Results

Fourteen rosacea patients (11 females, 3 males; mean age 48,86) and fourteen controls (11 females, 3 males; mean age 41,64) were included. There was no significant difference in mean BMI (p>0,05). Alcohol consumption was significantly more prevalent in the control group **(p= 0,029)**. Family history of cardiovascular disease was significantly more prevalent in rosacea patients **(p=0,008)**. Rosacea patients had significantly higher triglycerides levels **(p=0,031)**. The levels of systolic and diastolic blood pressure were significantly higher in rosacea patients **(p= 0,039)**. Blood flow velocities of the right common carotid artery (CCA) of rosacea patients were significantly lower **(p=0,027)**.

	Patients (n=14) *n*	Controls (n=14) *n*	*P*
Alcohol Consumption	1	6	**0.029**
Smoking	3	2	0.622
Family History of CVD	10	3	**0.008**
Physical Exercise	5	7	0.445
Carotid Plaque	2	5	0.001

***Figure 3.** Pearson Chi-Square Test. **CVD:** cardiovascular disease*

	Rosacea Group Mean ± SD	Control Group Mean ± SD	*P*
Age	48.86±14.98	41.64±20.75	0.329
Weight (kg)	70.53±10.47	68.64±10.38	0.635
Height (cm)	163.64±8.25	165.93±10.38	0.701
BMI (kg/m^2)	26.42±4.84	25.36±3.53	0.329
LDL (mg/dL)	113.62±29.59	131.27±39.63	0.329
HDL (mg/dL)	52.90±12.18	62.00±13.06	0.085
Triglyceride (mg/dL)	121.50±55.3	80.86±19.15	**0.031**
Total Cholesterol (mg/dL)	186.64±28.31	209.14±45.58	0.246
Systolic BP (mmHg)	127.29±20.99	114.86±15.52	**0.039**
Diastolic BP (mmHg)	78.71±14.46	70.21±8.18	**0.039**
Left CIMT (mm)	1.09± 0.31	0.89± 0.27	0.104
Right CIMT (mm)	1.043± 0.26	0.89± 0.26	0.150
Left PSV (cm/s)	115.79± 50.72	138.86± 37.80	0.062
Right PSV (cm/s)	103.57± 22.28	133.36± 35.14	**0.027**
Left CPL(mm)	8.00±0.70	7.60±0.89	0.571
Left CPW(mm)	2.55±0.35	2.08±0.46	0.381
Right CPL(mm)	7.80± 3.11	7.54± 4.96	1.000
Right CPW (mm)	2.85± 0.35	3.02± 1.42	1.000
Framingham Risk Score	6.20±7.84	4.50±4.11	0.938

***Figure 4.** Mann-Whitney Test. **CIMT:** carotid intima media thickness **PSV:** peak systolic velocity **CPL**: carotid plaque lenght **CPW:** carotid plaque width*

Discussion & Conclusion

Our study showed that rosacea patients have higher triglycerides, systolic and diastolic blood pressure levels and lower right CCA blood flow velocity compared to the general population. A larger sample size is needed to increase the precision of the results.

References

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Key Words

Rosacea, atherosclerosis, cardiovascular disease