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Evaluation of pentraxin 3 level and cardiac functions in psoriatic children

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Introduction
Psoriasis is a chronic inflammatory disorder affecting the skin, nails, and joints. Its prevelance has been estimated to be at 1% to 3% with lifetime in population. This study was designed to examine the association between serum pentraxin 3 (PTX3) and cardiovascular function in psoriatic children.
Methods
33 children who were diagnosed with psoriasis, and 29 healthy children, between 4 and 18 years of age, were included in the study. Both patient and control group was evaluated by the pulsed wave tissue Doppler echocardiography (TDI), as well as with conventional Doppler echocardiography (CDE). PTX3 values of the groups were evaluated.
Results
There was no difference between cases and controls for age (9.67±3.72, 9.60±2.84 years, p=0.916, respectively). In evaluation of LV (left ventricle) CDE; A wave, isovolumic relaxation time (IVRT) and myocardial performance index (MPI) were significantly higher in study group (p<0.05). Ejection time(ET) was significantly lower in study group compared to control group (p<0.05). In evaluation of LV TDI; Deceleration time (DT'), IVRT', E/E' and MPI' were found to be significantly higher in study group (p<0.05). In addition to, E', E'/A' and ET' were siginificantly lower in study group. PTX3 level was significantly higher in the study group compared to the control group (p=0.009)(Table I). However, no correlation was found between PTX3 level and cardiovascular parameters.
Conclusion
Both doppler echocardiography and PTX3 may be useful tools for the screening of CV risk in these patients. Psoriasis itself may be an independent risk factor for cardiac dysfunction in pediatric population.

Table I. CDE, TDI parameters and PTX3 values of groups.

Parameter	Study (n = 33)	Control (n = 29)	P
E (cm/s)	82.1 ± 11.6	80.4 ± 11.7	.569
A (cm/s)	49.9 ± 13.1	43.2 ± 9.5	.026
E/A	1.73 ± 0.46	1.93 ± 0.45	.095
S (cm/s)	79.6 ± 16.26	85.3 ± 10.8	.117
DT (ms)	89.7 ± 19.5	84.5 ± 12.9	.234
ET (ms)	241.1 ± 19.4	257.5 ± 17.0	.001
IVRT (ms)	71.2 ± 16.5	58.9 ± 12.4	.002
IVCT (ms)	66.9 ± 16.4	68.0 ± 13.0	.768
MPI	0.57 ± 0.10	0.49 ± 0.09	.002
E' (cm/s)	15.33 ± 3.41	17.55 ± 2.64	.006
A' (cm/s)	7.21 ± 1.89	6.72 ± 1.19	.239
E'/A'	2.21 ± 0.62	2.67 ± 0.52	.003
E/E'	5.71 ± 2.21	4.67 ± 0.94	.023
S' (cm/s)	9.81 ± 2.44	9.06 ± 1.22	.141
DT' (ms)	74.90 ± 12.59	64.03 ± 11.62	.001
ET' (ms)	256.5 ± 29.3	271.7 ± 20.8	.024
IVRT' (ms)	60.30 ± 10.36	52.65 ± 11.19	.007
IVCT' (ms)	66.51 ± 15.33	61.89 ± 9.23	.163
MPI'	0.50 ± 0.11	0.42 ± 0.07	.003
PTX3 (ng/ml)	5.89 ± 5.00	3.10 ± 2.61	.009

E, early diastolic myocardial velocity; A, late diastolic myocardial velocity; S, systolic myocardial velocity; DT, deceleration time; IVRT, isovolumic relaxation time; IVCT, isovolumic contraction time; ET, ejection time; MPI, myocardial performance index; PTX3, pentraxin 3.