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When to look for wtTTR amyloidosis in heart failure: increasing chances of positive gammagraphic study

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Introduction. Wild type transtirretin (wtATTR) amyloidosis has become increasingly recognized as a major cause for heart failure (HF). Diagnosis requires complex work up such as DPD scintigraphy (DPDs). Availability of DPDs is limited urging to identify factors to increase its diagnostic rentability.

Methods. Retrospective study of HF patients between 2013 and 2019 with suspected wtATTR and DPDs was performed. Baseline characteristics, biomarkers, EKG findings, TTE parameters (LVEF, LV diastolic function, TAPSE, interventricular septum (IVS), LV mass (LVM), relative LV wall thickness (RWT), indexed LVTD volume and diameter, indexed LA diameter (iAPLAD)) and DPDs results were studied. Two groups were created according to DPDs (SP those with positive results for amyloidosis and SN those with negative results). For statistical SPSS v.21 was used.

Results. 37 patients were studied. In our population 54% had positive DPDs for amyloidosis. Among SP patients 50% were classified as grade 2 of Perugini classification meanwhile 50% were grade 3; mean value of heart to contralateral ratio was 2,73 ± 0,8. There were no differences in NYHA classification. Differences among SP and SN patients are reflected in Table 1.

Conclusions. In our population SP was found to have higher biomarkers values and higher IVS, LVM, RWT and iAPLAD with poorer RV function. Further investigation is needed in order to confirm our result and identify prognostic factors.

Table 1: Results

	Total (37)	PS (20)	PN (17)	p value
Age (Y)	78 ± 7,9	80 ± 6,5	75,29 ± 8,7	0,05
Gender (male) (%)	30 (8)	19 (95)	11(64)	0,11
Carpal tunnel sdr (%)	3(8)	3 (15)	0 (0)	0,09
Systolic blood pressure (x ± sd)	127 ± 21	118 ± 18	138,5 ± 19	<0,01
ProBNP (x ± sd)	3596 ± 4002	4615 ± 4538	1761 ± 1927	<0,05
Troponin T (x ± sd)	132 ± 360	66,4 ± 35	43 ± 39	0,09
Pseudoinfarction pattern (%)	26 (70)	17 (85)	9 (52)	<0,05
IVS (mm) (x ± sd)	14,6 ± 4,5	16,6 ± 5,3	13 ± 3	<0,01
LVM (g/m2) (x ± sd)	142,5 ± 68	180 ± 80	111 ± 32	<0,01
RWT (x ± sd)	0,68 ± 0,42	0,8 ± 0,24	0,56 ± 0,5	<0,01
LVEF (%) (x ± sd)	57,4 ± 11	54 ± 12	60 ± 10	0,12
iAPLAD (mm/m2) (x ± sd)	25,4 ± 6	28,7 ± 6	22,7 ± 4,3	<0,01
TAPSE (mm) (x ± sd)	18,6 ± 5	16,1 ± 4	20,6 ± 5	<0,05

IVS = interventricular septum; LVM = left ventricular mass; RWT = relative wall thickness; iAPLAD= indexed anteroposterior left atrium diameter.