

Regression of bone-tracer uptake in hereditary ATTR amyloidosis after one year patisiran

An early non-invasive marker of treatment response?

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Background

Bone scintigraphy -> new gold standard for diagnosis
relevance in follow up unclear

Patisiran reduces TTR levels -> clear beneficial effects

Study aims:

- ▶ Does bone scintigraphy reflect the effect of treatment with patisiran for one year?
- ▶ How does bone scintigraphy perform compared to other follow-up markers?

Methods

35 ATTRv patients

- ▶ **Group 1** Patisiran ≥ 1 year 19 patients
 - Group 1A Patisiran only 9 patients
 - Group 1B Patisiran + TTR stabilizer 10 patients
- ▶ **Group 2** TTR stabilizer only 16 patients

Comparison of baseline values with values after at least 1 year patisiran and comparison between groups

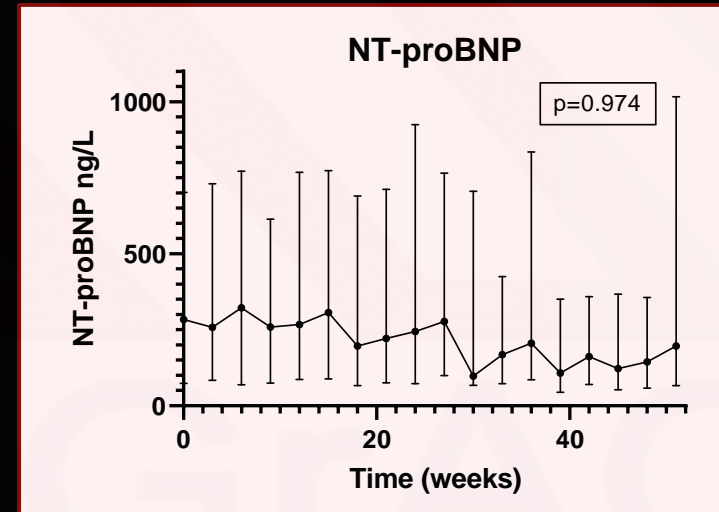
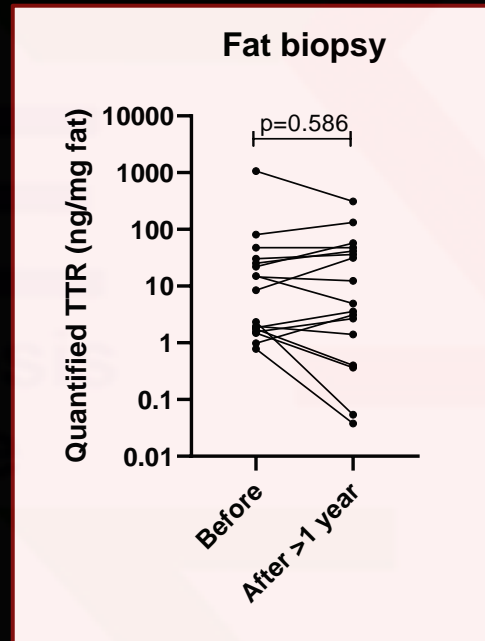
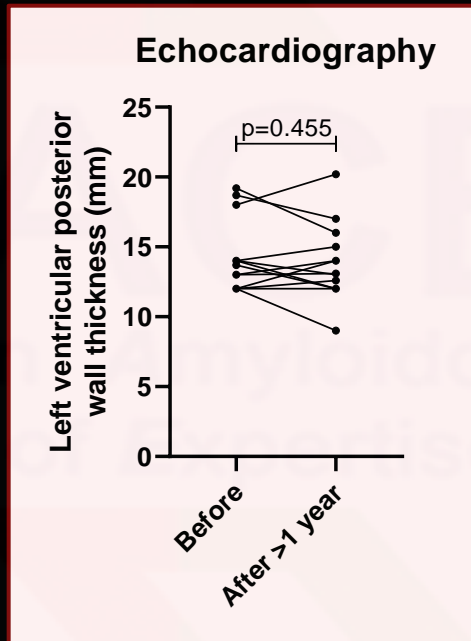
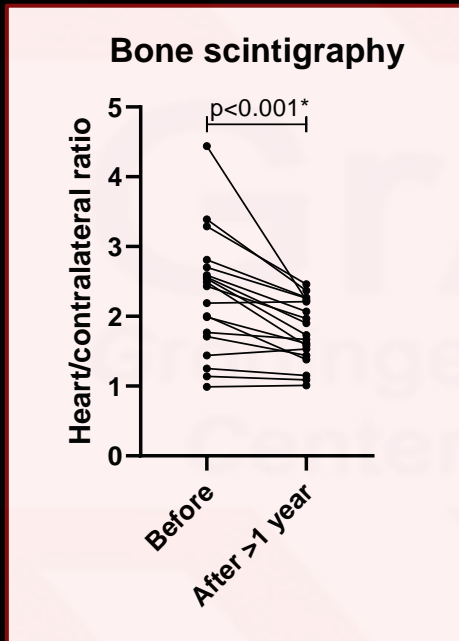
- ▶ Bone scintigraphy; using Perugini scoring method and heart/contralateral ratio
- ▶ Echocardiography; posterior wall thickness
- ▶ NT-proBNP
- ▶ Subcutaneous abdominal fat biopsy; quantified TTR

Results: patient characteristics

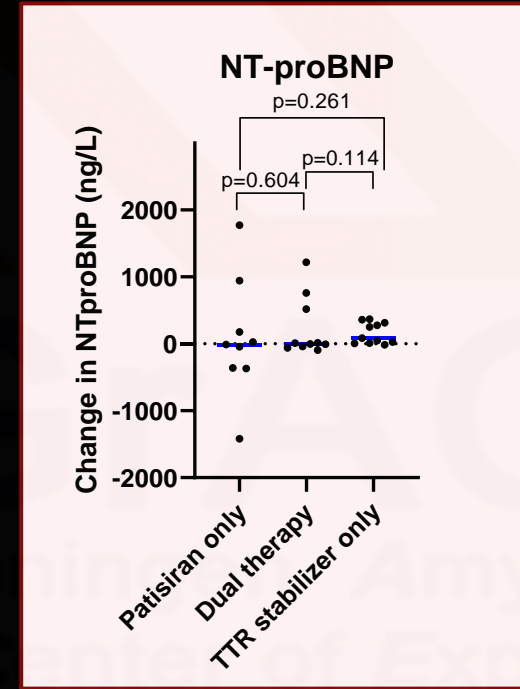
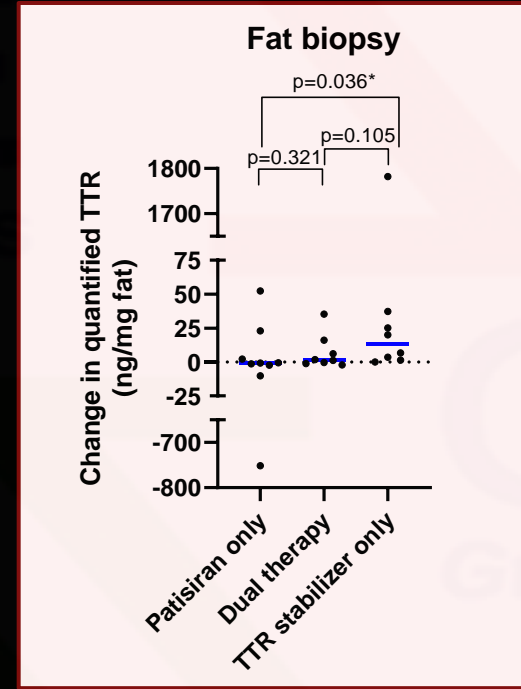
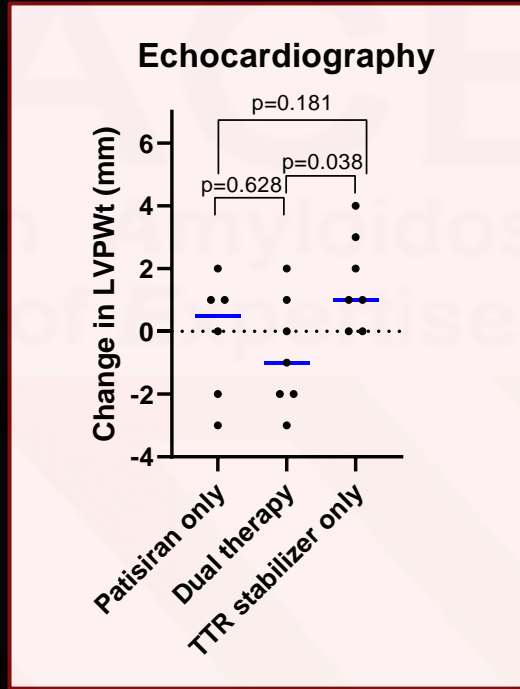
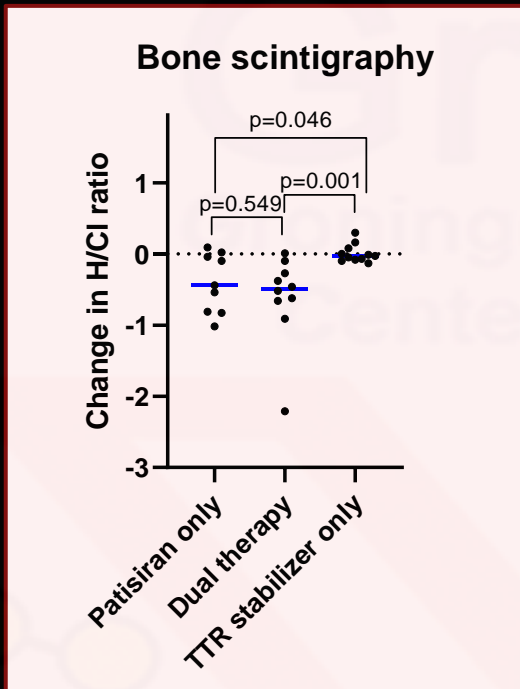
Serum transthyretin reduction: median 81% (IQR 77%-86%)

Characteristic	Group 1A	Group 1B	Group 2	P-value
Treatment	Patisiran	Patisiran + TTR stabilizer	TTR stabilizer	
Number of patients	9	10	16	
Age, median (IQR), years	71 (69-73.5)	58.5 (57-66)	58.5 (45.5-70.5)	0.044 ^{a+b}
Male	6 (67%)	9 (90%)	11 (69%)	0.484
Follow up time	363 (359-380)	380 (357-525)	745 (697-805)	<0.001 ^{b+c}
Clinical characteristics at baseline:				
H/Cl	2.54 (1.35-3.05)	2.22 (1.77-2.56)	1.35 (1.16-2.16)	0.060
NT-proBNP, ng/L	435 (155-2909.5)	176 (47-567)	114.5 (49-352)	0.168
LVPWt, mm	14 (13-18)	13 (12-14)	9 (6.75-9.85)	<0.001 ^{b+c}
TTR in fat biopsy, ng/mg fat	2.3 (1.45-47.75)	18.3 (1.75-27.85)	0.2 (0-26)	0.294
eGFR, ml/min*1.73m ²	86 (80-93.5)	88 (79-94)	83 (75-96.5)	0.972
Organ involvement:				
Cardiomyopathy	7 (78%)	9 (90%)	9 (56%)	0.171
Polyneuropathy	9 (100%)	10 (100%)	12 (75%)	0.134
Values are median (interquartile range) or number of patients (percentage)				
H/Cl = heart/contralateral ratio				
NT-proBNP = brain natriuretic propeptide				
LVPWt = left ventricular posterior wall thickness				
a = difference between group 1A and group 1B				
b = difference between group 1A and group 2				
c = difference between group 1B and group 2				

Results: baseline vs ≥ 1 year patisiran



Results: patisiran vs TTR stabilizer



Conclusions

- ▶ Significant regression of cardiac tracer uptake was demonstrated, whereas conventional follow-up markers did not significantly change
-> Bone scintigraphy useful as an early marker of treatment response?
- ▶ No differences in regression were noticed between patisiran only and the combination of patisiran and a TTR stabilizer