

RIGHT VENTRICULAR WALL MOTION ABNORMALITIES IN THALASSEMIA MAJOR AND INTERMEDIA PATIENTS

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OBJECTIVES



The role of the right ventricle (RV) is gaining ground in thalassemia patients.

Magnetic resonance imaging (MRI) → gold-standard for the study of RV anatomy and function.

Maceira AM et al. European Heart Journal 2006;27:2879-88.

We investigated for the first time the relationship between RV motion abnormalities, volumes and function in both thalassemia major (TM) and thalassemia intermedia (TI) patients.

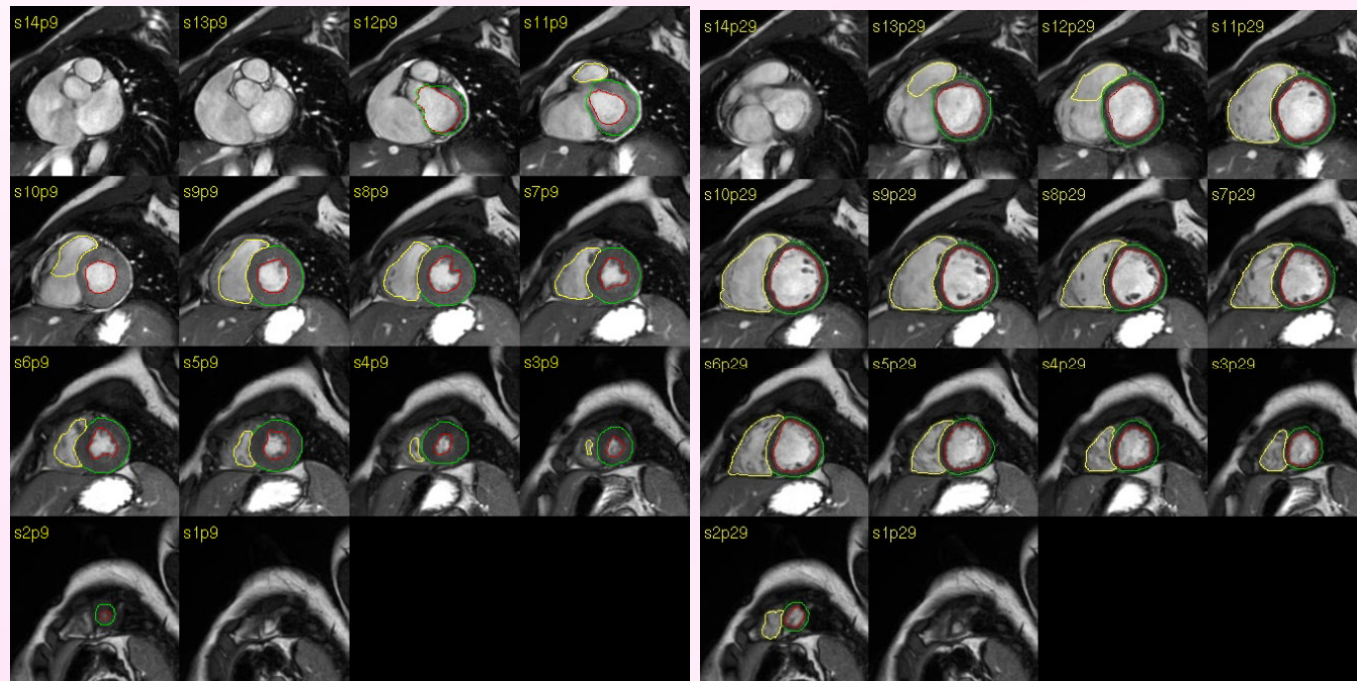
METHODS

MRI performed in 1369 TM patients (537 males; 30.9 ± 8.9 years) and 266 TI patients (38.5 ± 11.5 years) enrolled in the Myocardial Iron Overload in Thalassemia (MIOT) Network.



METHODS

Cine images acquired to evaluate wall motion and to quantify RV volumes EF.



Sironi M et al. In MRI of Heart and Vessels. Lombardi M, Bartolozzi C 2005.

RESULTS



- 41 TM patients with abnormal RV motion: 35 hypokinetic, 5 dyskinetic and 1 akynetic.
- 12 TI patients with abnormal RV motion: 8 hypokinetic and 4 dyskinetic.
- Presence of RV motion abnormalities comparable between TM and TI patients (3.0% vs 4.5%; $P=0.201$).

RESULTS



Comparison between TM patients with abnormal and normal RV motion.

	Abnormal RV motion	Normal RV motion	P
Age	34.7 ± 5.8	30.9 ± 8.9	0.005
Sex (M/F)	31/10	633/695	<0.0001
RV EDVI (ml/m²)	109.0 ± 45.9	82.7 ± 18.9	<0.0001
RV ESVI (ml/m²)	60.7 ± 28.9	32.1 ± 11.2	<0.0001
RV EF (%)	45.2 ± 10.1	61.5 ± 7.7	<0.0001

RESULTS



Comparison between TI patients with abnormal and normal RV motion.

	Abnormal RV motion	Normal RV motion	P
Age (years)	41.3 ± 9.2	38.4 ± 11.6	0.307
Sex (M/F)	7/5	128/126	0.591
RV EDVI (ml/m²)	111.6 ± 35.3	83.4 ± 19.2	0.012
RV ESVI (ml/m²)	55.7 ± 32.6	31.5 ± 10.1	<0.0001
RV EF (%)	51.0 ± 14.8	63.9 ± 7.3	0.001

CONCLUSIONS

- ✓ **Movement abnormalities of the right ventricle not common in thalassemia.**
- ✓ **Comparable frequency of RV motion abnormalities between TM and TI patients.**
- ✓ **Movement abnormalities of the right ventricle associated with RV dilation and dysfunction in both forms of thalassemia.**