

Effect of splenectomy on cardiac iron and function in different transfusion-dependent patients



Antonella Meloni¹ (antonella.meloni@ftgm.it); Vincenzo Positano¹, Gaetano Roccamo², Crocetta Argento³, Monica Benni⁴, Daniele de Marchi¹, Massimiliano Missere⁵, Paolo Preziosi⁶, Cristina Salvatori¹, Alessia Pepe¹.

¹CMR Unit, Fondazione G. Monasterio CNR-Regione Toscana, Pisa, Italy;
²Unità di Prevenzione e Cura delle Microcitemie, PO di S. Agata di Militello (ASP-ME), Italy; ³Centro di Talassemia Ospedale San Giovanni Di Dio, Agrigento, Italy; ⁴Centro Trasfusionale, Policlinico S. Orsola "L. e A. Seragnoli", Bologna, Italy; ⁵Dipartimento di Radiologia, Università Cattolica del sacro cuore, Campobasso, Italy; ⁶U.O.C. Diagnostica per Immagini e Interventistica, Policlinico "Casilino", Roma, Italy.



Objectives



Main therapeutic rationale for splenectomy in transfusion-dependent patients with hemoglobinopathies → to decrease blood consumption and transfusion requirement .

Cohen A et al. Am J Hematol 1989;30:254-6.

Spleen = large physiologic iron depot → splenectomy may have a possible role of in determining extrahepatic iron overload.

Fischer R et al. Am J Hematol 1999;60:289–99.

AIM: to observe retrospectively the effect of splenectomy on cardiac iron and function in different groups of transfusion-dependent patients.



Methods



1735 transfusion-dependent patients [14 with sickle-thalassemia, 23 with sickle-cell disease (SCD), 179 with thalassemia intermedia (TI) and 1519 with thalassemia major (TM)] enrolled in the Myocardial Iron Overload in Thalassemia (MIOT) Network.



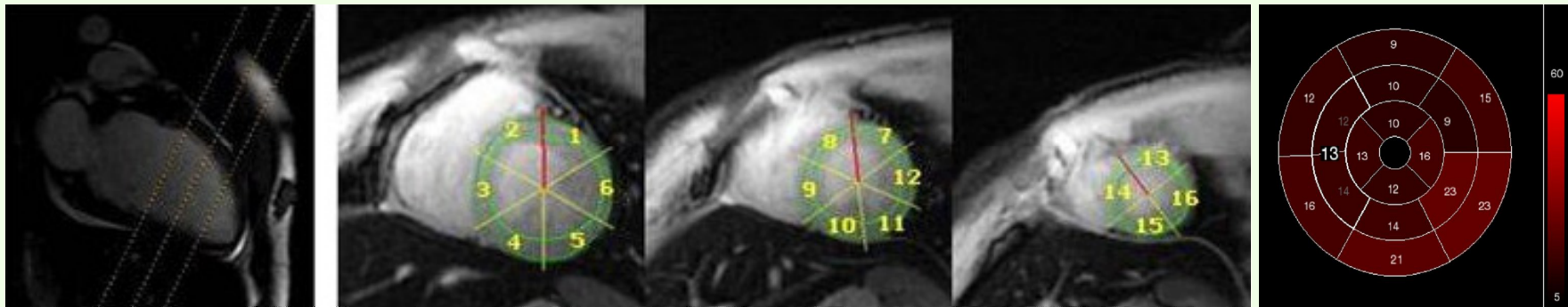
Meloni A et al. *Int J Med Inform* 2009;78:503-12



Methods



- ❖ Cardiac iron assessed using a multislice multiecho T2* approach. Global heart T2* obtained by averaging all segmental values.

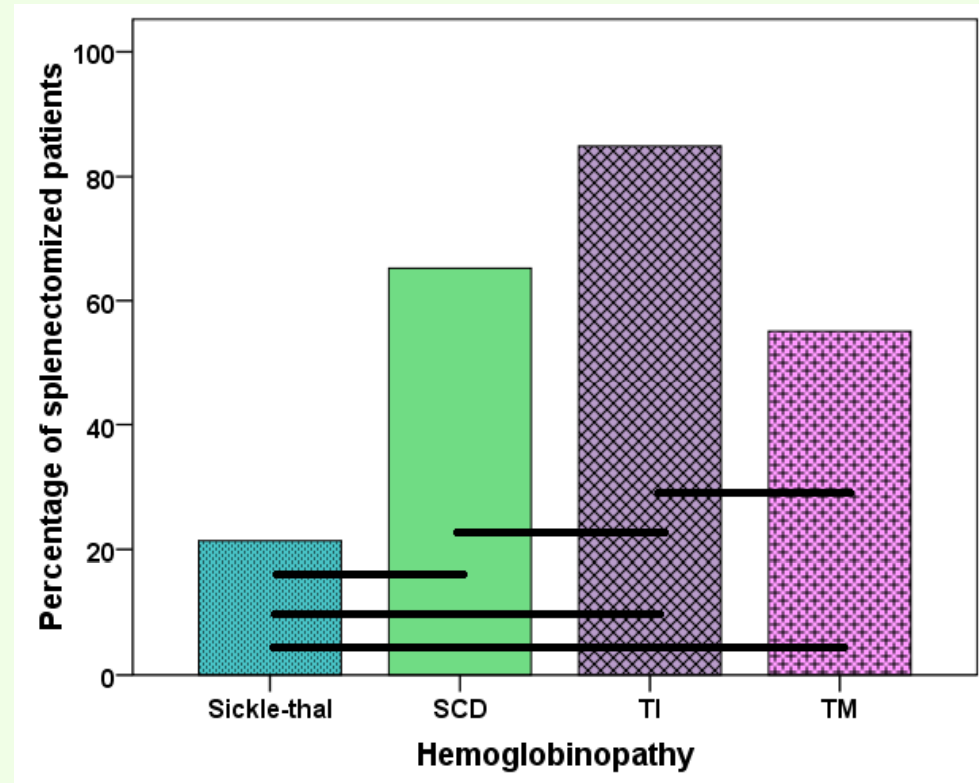


Pepe A et al. JMRI 2006;23:662-8.

- ❖ Left ventricular ejection fraction (LV EF) quantified by cine SSFP sequences.

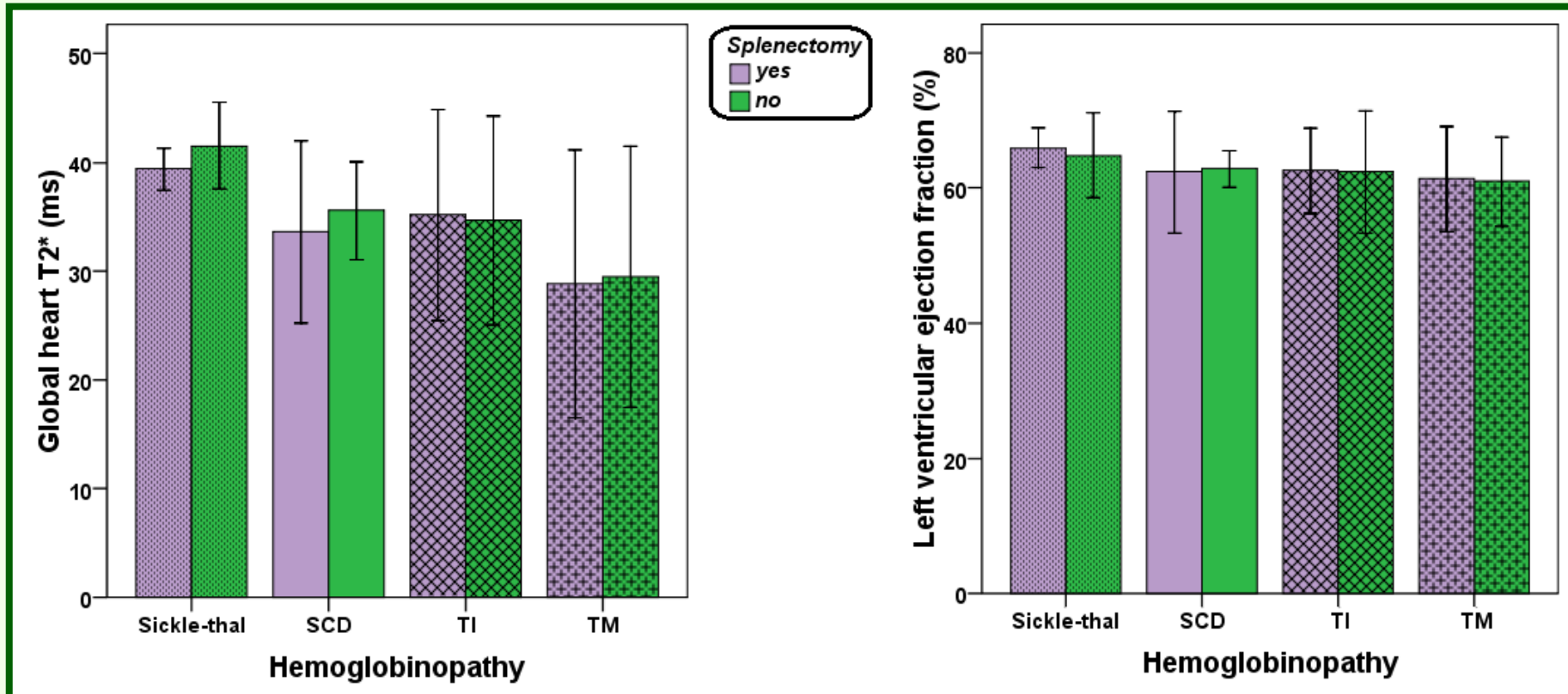
Marsella M et al. Haematologica 2011;96:515–20.

Results



Splenectomized TM patients older than non-splenectomized patients (34.3 ± 7.9 yrs vs 27.2 ± 7.8 yrs; $P < 0.0001$).

Results



Conclusions



Regardless by the type of hemoglobinopathy, in regularly transfused patients splenectomy was not associated with increased cardiac iron and reduced cardiac function.

