

T2* MRI of the Pancreas in Thalassemia... Beyond the Liver and the Heart

At a glance:

- The most common cause of death in patients with thalassemia major is heart failure secondary to iron overload (IO).
- Pancreatic iron overload precedes myocardial iron overload, sometimes even up to a decade, and is

therefore a useful tool to predict myocardial iron overloading.

- A normal global pancreas T2* value > 20 ms has a negative predictive value of 100% for cardiac IO & disturbances of glucose metabolism

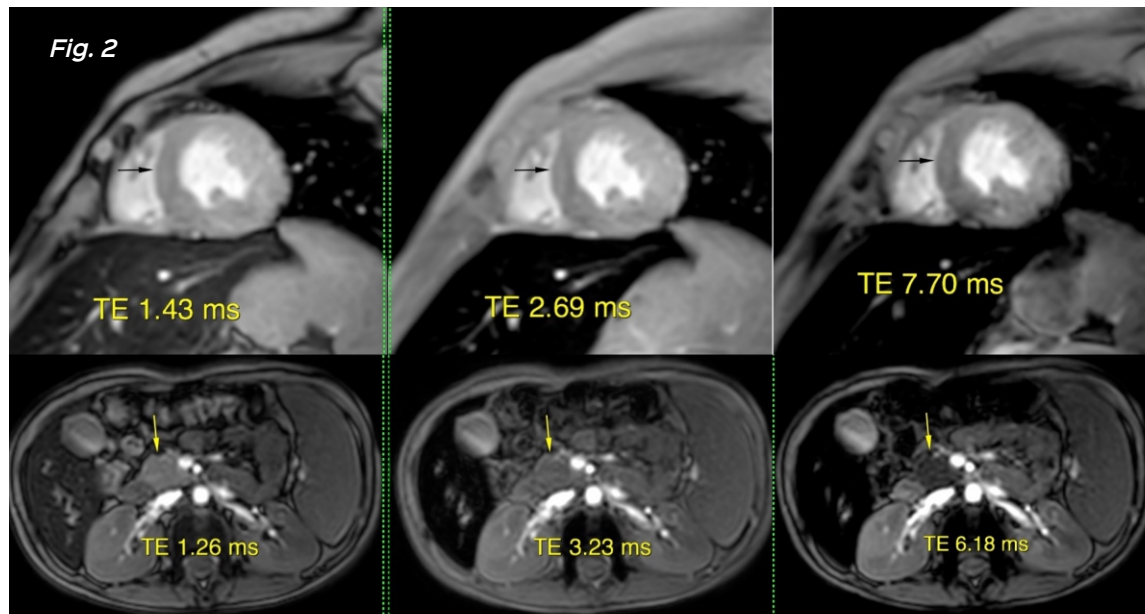


Figure 2: 9-years old boy with β -thalassemia major . Multi-echo GRE T2* short axis sequence of the heart (top row) shows no darkening of the myocardium (black arrows). T2* value was greater than 20, suggestive of absence of iron overload. Multi-echo GRE T2* axial sequence of the pancreas (bottom row) shows progressive darkening of the pancreatic head (yellow arrows) Fig 1. The T2* value is 10.1 ms, suggestive of mild iron overload.

Pancreatic iron overload precedes myocardial iron overload, sometimes even up to a decade, and is therefore a useful tool to predict myocardial iron overloading. This is attributed to the presence of the same L-type calcium iron channels in the two organs. A normal global pancreas T2* value > 20 ms has a negative predictive value of 100% for cardiac IO & disturbances of glucose metabolism.

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Owner, Printer & Publisher: Dr. Bhavin Jankharia

Published at: Dr. Jankharia's Imaging Centre

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