

## Evaluation of cardiac functions in patients with thalassemia major

N.Ö. KUÇUK,\* G. ARAS,\* T. SİPAHI,\*\* E. İBIŞ,\* N. AKAR,\*\* A. SOYLU\* and G. ERBAY\*

*Departments of \*Nuclear Medicine and \*\*Pediatriy, Ankara University Medical School  
Ankara, Turkey*

It is known that a blood transfusion is necessary for survival in patients with thalassemia, but it may cause myocardial dysfunction due to myocardial siderosis as in other organs. The aim of this study was to evaluate myocardial perfusion by means of stress thallium scanning (MPS) and left ventricular functions by rest radionuclide ventriculography (RNV).

Twenty-one patients at ages 9–16 (mean  $12.1 \pm 3.2$ ) who have been diagnosed with thalassemia for 4–15 years (mean  $12.7 \pm 4.8$ ) were included in the study. They had blood transfusions 78–318 times (mean  $162.1 \pm 71$ ). MPS and RNV was performed within two days after the any transfusion.

MPS showed ischemia in 3 patients and normal perfusion in 18 patients. RNV revealed normal systolic parameters (wall motion, EF, PER, TPE) but diminished diastolic parameters (TPF, PFR) compared with normal values ( $p < 0.05$ ).

We conclude that ischemia or fixed defects may be seen in stress MPS as a result of cardiac involvement in patients with thalassemia. But, RNV is an important and preferable test for the early detection of subclinic cardiomyopathy. RNV may therefore show diastolic abnormalities before the systolic abnormalities show up.

**Key words:** thalassemia, radionuclide ventriculography, myocardial perfusion siderosis