

SURVIVAL AND COMPLICATIONS IN THALASSEMIA

Caterina Borgna-Pignatti, Dept of Pediatrics, University of Ferrara, Ferrara, Italy.

The life expectancy of patients with thalassemia major has significantly increased in recent years, as reported by several groups in different countries. Transfusions are safer and chelation is no longer the ordeal that once was. A lot more is known about the pathophysiology of the disease, and the direct measurement of accumulation of iron has been made possible by new methods. For some patients hematopoietic stem cell transplantation is also a viable alternative to transfusion and chelation. However, complications, mostly due to iron overload, are still frequent and affect the patients' quality of life.

A study that has been going on for the past 25 years, including almost 1000 patients born since 1960, has demonstrated that, in 2003, 68% of the patients were alive at age 35 years. There was a significant association between birth cohort and survival with the greatest improvement noticed for patients born after 1970, who had the benefit of chelation with deferoxamine (DFO) from the first years of life. In the majority of published series there was a significant association between birth cohort, survival and complication-free survival.

In a recent study from the U.K. it was found that 50% of the patients had died before age 35, while at that age, 65% of the Italian patients were still alive. Heart disease is responsible for more than half of the deaths. The prevalence of complications in Italian patients born after 1970 includes heart failure (7%), hypogonadism (57%), hypothyroidism (11%), diabetes (6%). In the Italian study, lower ferritin was associated with a lower probability of experiencing heart failure and with prolonged survival. Osteoporosis and osteopenia are common and affect virtually all patients. HCV antibodies are present in 85% of multitransfused Italian patients, 23% of patients in the United Kingdom, 35% in the USA, 34% in France, and 21% in India. Hepatocellular carcinoma can complicate the hepatitis.

Recent studies have demonstrated better cardiac prognosis in patients treated with deferiprone (L1). We compared the occurrence of cardiac disease in patients treated only with DFO and in those whose therapy was switched to L1, from January 31, 1995 to December 31, 2003. The two groups were comparable for age and sex, while ferritin levels were significantly higher in patients switched to L1. Fifty-two cardiac events, including 10 cardiac deaths, occurred during therapy with DFO, none during L1 therapy or within at least one year and eight months after the end of it. Deferiprone appeared to be more cardiac protective than DFO.

In conclusion survival and complication-free survival continue to improve, as a consequence of better treatment strategies. New complications are appearing in long-term survivors. Ferritin levels have been found to be of prognostic value. Iron overload of the heart remains the main cause of morbidity and mortality. Chelation with deferiprone or with deferiprone associated to deferoxamine seems to afford better prognosis in terms of survival and protection from cardiac disease.