CORRESPONDENCE

The Treatment of Secondary Hemochromatosis

Prof. Dr. med. Norbert Gattermann in volume 30/2009

Prevention Is More Cost Effective

The article did not mention the option of not even allowing iron overload to develop in patients who required chronic transfusion. By using treatment via erythrocyte exchange, iron overload with all its sequelae could be prevented without any substantial risk to patients; this has been customary practice in Italy for many years (1). Erythrocyte exchange treatments can be performed in sickle cell anemia, especially in sickle cell crisis, thalassemias, or combined hemoglobinopathies. Erythrocyte exchange treatment can be given from early childhood; it poses no risk of impaired health to the patient further to the risks associated with administering blood products (2).

The cost per year of treatment with deferasirox ranges from €17 872,79 to €47 207,54; for treatment with deferoxamine from €10 439,07 to €35 798,62 and for deferiprone, the amount is €8740,78 (3). By comparison, the costs of erythrocyte exchange—without taking into consideration the erythrocyte concentrates required for transfusion—amount to hundreds of euros, depending on which system is used. This makes erythrocyte exchange treatment a cost effective alternative for therapy with iron chelators, even if the treatment has to be administered monthly.

By means of erythrocyte exchange, secondary hemochromatosis can be prevented in a cost effective way and with a low side effect profile, without exposing the patient to the risk of an additional medication, possibly even at a young age.

Non-invasive quantification of the hepatic iron concentration by means of biosusceptometry (SQUID) is possible. In Germany, this method is currently established only in Hamburg, and the cost is covered by the statutory health insurers, as far as I know.

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Conflict of interest statement

The author declares that no conflict of interest exists according to the guidelines of the International Committee of Medical Journal Editors.

In Reply:

Otto rightly points out that biosusceptometry with SQUID ("superconducting quantum interference device") is a good method for measuring hepatic iron concentration. The disadvantage of the method is that the equipment is expensive and only 4 SQUID machines are currently operational worldwide (one of those is in Hamburg). Otto is also right in that preventing iron overload is better than treating it. I also agree that prevention and treatment with iron chelators is expensive. However, Otto is not right in presenting erythrocyte exchange as a proved method of preventing iron overload in patients who are chronically in need of transfusions. In patients with sickle cell anemia, this approach is useful in order to lower the proportion of HbS carrying erythrocytes and thus prevent clinical complications. In contrast to transfusion treatment by itself, the simultaneous removal of damaged erythrocytes obviously counteracts iron overload. However, in patients with chronic bone marrow failure—for example, elderly patients with myeloplastic syndromes (much more common in central Europe and North America than patients with sickle cell anemia or thalassemia)—the desired prevention of iron overload cannot be realized by means of erythrocyte exchange. If these patients present every 2–3 weeks with Hb concentrations as low as 8–9 g/dL as a result of their ineffective erythropoiesis, it is of little benefit to them to have their own erythrocytes exchanged for someone else's. In order to achieve a substantial increase of the Hb concentration, substantially more erythrocytes have to be transfused than apheresed during an exchange transfusion—the iron load is correspondingly high.

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