

EVALUATION OF ORAL IRON CHELATOR DEFERIPRONE AND DEFERASIROX EFFECTIVENESS BY PARAMETER OF SERUM FERRITIN FOR TREATMENT OF IRON OVERLOAD IN PATIENT WITH THALASSEMIA MAJOR

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ABSTRACT

Background : Iron overload is the major morbidity and mortality in patients with thalassemia major. It is caused by the mechanism of the disease itself and also the transfusion as the main treatment of thalassemia major. In dealing with iron overload, iron chelating treatment is essential. Some choices of iron chelating agent are widely used, namely Deferoxamine (DFO), Deferiprone (DFP), and Deferasirox (DFX). DFO is the only drug administered parenterally nowadays. The effectiveness of these drugs whether as monotherapy or combination therapy has been observed by some researchers. However, there is lack of information regarding evaluation of orally administered drug effectiveness. As the treatment of iron chelator is important to prevent any morbidity and mortality in patients with thalassemia major, thus understanding the evaluation of drug effectiveness in clinical setting is also important. The serum ferritin (SF) value <1500 ng/mL is believed to reduce the possibility of complication caused by iron overload.

Objective : To know the evaluation effectiveness of oral iron chelator DFX and DFP with parameter serum ferritin reduction in treatment of iron overload in patients with thalassemia major in RSUP Dr.Sardjito.

Method: a cohort retrospective study with subjects thalassemia major patients who received oral iron chelator DFX or DFP. Data is collected from patient's daily book of Thalassemia, medical record, research form, and questionnaires.

Result : 43 subjects are recruited in this study, 22 of them receive DFX as iron chelator and 21 of them receive DFP. Of all five time SF examinations and its mean in one year, there is no significant difference between DFX and DFP groups ($p = 0.77$). In each DFX and DFP groups, there is also no significant difference between beginning SF examination and SF value post one year therapy ($p = 0.56$ and $p = 0.93$). The SF reduction in every examinations for both groups is not consistent, with 75% patients having SF value >1500 ng/mL in every SF examinations.

Conclusion : Both DFX and DFP give effect on SF reduction, but cannot be consistent, and there is no different effectiveness of therapy DFX and DFP but both drugs are not effective in reducing SF level to below 1500 ng/mL.

Keywords : Thalassemia Major, Deferasirox, Deferiprone, Serum Ferritin, Iron Overload, Effectiveness