



EFFECT OF SPLENECTOMY ON TRANSFUSION REQUIREMENTS AND FERRITIN LEVELS IN TRANSFUSION DEPENDENT BETA THALASSEMIA PATIENTS OF QUEEN ELIZABETH (HQE) HOSPITAL, SABAH

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Background

Thalassemia is the commonest Hemoglobinopathy in Malaysia. 8681 thalassemia patients have been registered in the Malaysian Thalassemia Registry (MTR) in 2018. Sabah contributed about 22.7 %, with a total of 1814 patients. In the Haematology unit of HQE there are 232 transfusion dependent Beta thalassemia (TDBT) patients in 2019. Currently splenectomy is not recommended as a standard procedure in thalassaemic individuals in view of the observation of an increased risk of venous thrombosis and pulmonary hypertension, alongside overwhelming infections post splenectomy. However, splenectomy is considered in three clinical scenarios that is increasing blood requirement that prevents adequate control with iron chelation therapy, hypersplenism and symptomatic splenomegaly

Materials and Methods

A retrospective cross sectional study was conducted in Hematology Unit of HQE. Fifty transfusion dependent Beta thalassemia patients who were splenectomized between 2007 and 2016 were randomly selected. Details of annual packed cell transfusion requirements, pre-transfusion Hemoglobin level, and Serum Ferritin pre-splenectomy, 1 year and 3 years post splenectomy were collected from previous medical records and analyzed.

Results

A total of 35 Beta thalassemia Major and 15 Beta Thalassemia Intermedia patients who were transfusion dependent were included in this study. The mean age of Splenectomy was 19 years old (range 10-44 years old) and 28 were females and 22 males.

The most common indication for splenectomy was hypersplenism (78%), difficult Phenotype Blood (14%) and alloimmunization (8%). The mean pretransfusion Hb pre-splenectomy was 6.8g/dl (± 1.1) and increase to 8.02 g/dl (± 0.89) at 12 months post splenectomy and maintained 8g/dl (± 1.0) 36 months post splenectomy. Mean Annual Packed cell Volume transfusion requirements pre - splenectomy, and post- splenectomy at 12 and 36 months were respectively 216ml (± 77)/kg/year, 130ml(± 55)/kg/year and 114(± 44)ml/kg/year which showed reduction up to 46% in requirements and maintained 36 months post Splenectomy. The Mean serum Ferritin levels was noted to increase 12 months post splenectomy from 7013ng/mL to 7261 ng/mL however reduced to 4883 ng/mL at 36 months post splenectomy.

Discussion: In our center splenectomy was offered to patients with hypersplenism, alloimmunization and patients with rare blood phenotype due to limited blood supply. This study shows the beneficial effects of splenectomy on transfusion requirements and Iron overload in Transfusion Dependent Thalassemia patients in our center. The reduction in transfusion requirements was maintained at least 36 months post splenectomy. There was slight increase in serum ferritin level 12 months post splenectomy however subsequent ferritin level reduction at 36 months post splenectomy is due lower transfusion requirements and chelation therapy. Despite the favourable results, the decision of splenectomy should still be individualized considering the risk and benefit in every patient.