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Organ Iron Levels As A Marker In Cases Of Iron Overload

THESIS

Submitted in Partial Fulfillment for the Degree of Master of Science (M.Sc). In pediatrics

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بسم الله الرحمن الرحيم

بناء على موافقة الأستاذ الدكتور / نائب رئيس الجامعة بتاريخ ٢٨ / ٣ / ٢٠٠٥م اجتمعت اللجنة المشكلة من الأساتذة :

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(استخدام مستوي الحديد في الأعضاء كمؤشر في حالات زيادة الحديد في الجسم)

الملخص:

زيادة مستوي الحديد في الدم في مرضي أنميا البحر المتوسط يعد من أخطر المشاكل التي تواجههم والتي تحتاج إلي متابعة دقيقة بالتحليل لقياس نسبة الحديد وإعطاء العلاج اللازم (ممسكات الحديد مثل الديسفيروكسامين) ومتابعة أخذ العلاج وتأثيره. وقد تم قياس نسبة الحديد في الجلد كيميائيا ومقارنته بنسبة الحديد في الكبد كما تم الكشف عن تراكم الحديد في الجلد والكبد هستولوجيا لمحاولة إيجاد طريقة سهلة وبسيطة وغير مكلفة للكشف عن الحديد.

وتري اللجنة قبول البحث

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Abstract

Iron overload is one of the most important complication in chronic hemolytic anemia. Estimation of iron level and monitoring it during the course of the disease and treatment is very crucial. There is no iron parameter effeciently used in assessment of iron status. It's quantitated directly from repeated liver biopsies.

The aim:To find a simple, easy, accurate and less expensive method to measure the level of iron content in multitransfused thalassemic patients.

Patients and methods: The study included 31 multitransfused thalassemic patients (17 males &14 females) presentd to the pediatric hematology clinic. Different pretransfusional laboratory tests were done as CBC, reticulocytic count, Hb electrophoresis and liver function tests (AST, ALT, total bilirubin and direct bilirubin). Some iron parameters were done (serum iron, TIBC, TS%, serum ferritin and STFR). Liver and skin biopsies were examined histologically by the light microscope and biochemically by the atomic absorption spectrophotometer.

Results: The SIC of the cases was statistically significantly higher than that of the control P<0.001. There was a satistically significant correlation between LIC and SIC p= 0.016. Sensetivity and specificity was 100 % for both LIC and SIC at the cut off value of 14.83 ± 5.95 mg/g dry wt. Liver and 2.233 ± 1.14 mg/g dry wt. Skin respectively.

Conclusion: Skin iron concentration seems to be a good test to detect iron overload.

Key words: Thalassemia syndrome - Iron overload

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AKNOLAGEMENT

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