

بسم الله الرحمن الرحيم

قال تعالى:

وَقَالَ رَبِّ أَوْزِعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ الَّتِي أَنْعَمْتَ عَلَيَّ وَعَلَىٰ وَالِدَيَّ وَأَنْ أَعْمَلَ

صَالِحاً تَرْضَاهُ وَأَدْخِلْنِي بِرَحْمَتِكَ فِي عِبَادِكَ الصَّالِحِينَ {19}

صدق الله العظيم

(سورة النمل الآية 19)

Dedication

To my beloved family

To my teachers

To my friends and colleagues

I dedicate this humble work

Acknowledgements

My first thankful is to Allah of his affluence and helping me in establish and complete this study .

My great appreciation and gratitude were extending to my supervisor :Dr . Noon Babiker Mohammed for her precious advice and guidance up on this study .

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Abstract

Background : Renal transplant is the treatment of choice for a patients with end stage renal disease . Although R T is ideal therapy for ESRD but some times can failed due to many complication can occurs after transplant include : infection ,electrolytes disturbance .Abnormalities in serum electrolytes serve as risk factors for graft dysfunctions .

Objective :To evaluate plasma electrolytes (sodium , potassium ,calcium, phosphate) level among sudanese renal transplant patients

Material and method :This is case control study. The study was conducted during the period of April to August2015. 50 Renal transplant patients were enrolled in this study in which they include 30males and 20 females with an ages between (25 -65) years , other 50 apparently healthy volunteer were also enrolled in this study to serve as controls .All participants were meet Renal Transplant Society Hospital (khartoum Bahri) in which the clinical assessment were made by physician .Samples were collected from both case and control and tested for electrolytes level , and results were analyzed using statistical of package social science (SPSS) .

Results :The result of this study showed that the level of sodium and potassium in the blood of renal transplant were nearly the same as the control group there is no significant change , being (138 ± 2.50) and (139 ± 2.32) mEq/L for sodium in renal transplant patients and control respectively p. value = 0.1 , and potassium (4.0 ± 0.47) and (4.2 ± 0.41) mEq/L in case and control respectively p .value =0.08 . But calcium and phosphate were significantly change .

Calcium exhibited significant elevation in RT patients when compare with control value , being (11.4 ± 0.54) and (8.9 ± 0.45) mg/dL in case and control respectively , p . value = 0.00 .

Phosphate were significantly reduced in RT patient in comparison with control , being (2.3 ± 0.29) and (3.8 ± 0.61) mg/dL in case and control respectively , p .value = 0.00 .

The result also showed that the four parameters sodium , potassium, calcium and phosphate measured in the blood of males and females of RT patients were not altered values in males nearly the same as in females .

pearson correlation analysis showed that there was no correlation between the sodium , potassium measured in the blood of the RT patients and the ages of patients and duration of transplant. But there was significant moderate correlation between the calcium , phosphate measured in the blood of the RT patients and the ages of patients and duration of transplant .

المستخلص

الخلفية : زراعة الكلي هي العلاج الافضل لمرضي الفشل الكلوي المزمن .وبالرغم من انها العلاج الانسب الا انها احيانا تفشل بسبب بعض التعقيدات التي قد تحدث بعد الزراعة مثل العدوي واختلال الشوارد الكهربائية التي تمثل مؤشرات او عوامل خطورة لفشل الزراعة .

الهدف :تقييم مستوي املاح الصوديوم والبوتاسيوم والكالسيوم والفسفور في مرضي زراعة الكلي السودانيين .

المواد والاسلوب :اجريت هذه الدراسة خلال الفترة من ابريل الي اغسطس 2015. اشترك في هذه الدراسة 50 من المرضي الذين اجريت لهم زراعة كلي والتي تحتوي علي 30 من الذكور و20 من الاناث بمتوسط اعمار 25-65 ومجموعة اصحاء 50 لايعانون من امراض تحتوي كذلك علي 30 من الذكور و20 من الاناث كمجموعة ضابطة .

اجريت هذه الدراسة في مستشفى جمعية زارعي الكلي السودانية بالخرطوم بحري حيث تم تقييم حالة المرضي الصحية بواسطة الطبيب . تم جمع العينات واختبارها في كل من المرضي والمجموعة الضابطة واستخدم نظام التحليل الاحصائي لتحليل النتائج المتحصل عليها .

النتائج: نتائج هذه الدراسة اوضحت ان مستوي الصوديوم والبوتاسيوم في دم مرضي زارعي الكلي لا يختلف كثيرا من المجموعة الضابطة حيث ان متوسط الصوديوم عند المرضي (138 ± 2.51) وعند المجموعة الضابطة (139 ± 2.32) . اما متوسط البوتاسيوم عند المرضي (4.0 ± 0.47) وعند المجموعة الضابطة (4.2 ± 0.41) . ايضا اظهرت الدراسة ارتفاع الكالسيوم عند مرضي زارعي الكلي بالمقارنة مع المجموعة الضابطة حيث اوضحت ان متوسط الكالسيوم عند المرضي (11.4 ± 0.54) وعند المجموعة الضابطة (8.9 ± 0.45) . ايضا اوضحت الدراسة ان مستوي الفوسفات عند مرضي زارعي الكلي يقل بالمقارنة مع الضابط حيث ان متوسط الفوسفات عند المرضي (2.3 ± 0.29) وعند المجموعة الضابطة (3.8 ± 0.61) .

ايضا اوضحت الدراسة ان القياسات الاربعة عند مرضي زراعة الكلي عند الذكور والاناث لا تختلف . اظهر التحليل الاحصائي لمعدل الارتباط انه ليس هناك ارتباط بين مستوي الصوديوم والبوتاسيوم في دم مرضي زارعي الكلي واعمار المرضي ومدة الزراعة . لكن هناك ارتباط معتدل بين مستوي الكالسيوم والفسفور في دم المرضي واعمار المرضي ومدة الزراعة .

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Abbreviation

ADH : Anti Diuretic Hormones

ANH : Atrial Natriuretic Hormone

ESRD : End Stage Renal Disease

P TH : Parathyroid hormone

RT : Renal transplant