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Dedication

.To my parents

To my Brothers & Sisters

To my friends

Acknowledgement

Praises and thanks to almighty Allah.

Special and deep thanks to my supervisor *Dr. Abdalsalam Abdallah Dafaallah*, for his permanent support and encouragement.

I would like to express my gratitude to all those who helped me during my work.

I would like to express my heartfull gratitude to my family.

Deep thanks would go to all staff of alkhartoum educational hospital - urinary tract surgery .section

Abstract

This study focused on ten kidney stones of Sudanese patients using infrared spectroscopy and inductively coupled plasma optical emission spectroscopy (ICP/ES). The samples were collected from Khartoum educational hospital. Statistical analysis has been carried out for data of patients with kidney stones for the years 1999 to 2011 .using SPSS program

The infrared spectroscopy indicated that; calcium oxalate and uric acid are commonly found in Sudanese patients. Elemental analysis was carried out to determine the concentrations of Cr, Cu, Fe, K, Mn, Mo, Na, P, Ca and Mg. The averages of these concentrations were 0.16, 34.75, 32.67, 784.95, 0.058, 1.35, 840.18 ppm and 0.41, 10.57, 13.33 wt% respectively.

Statistical analysis indicated that males are more likely than females to stone formation, older subjects more than 25 years are susceptible to suffer stone formation.

الملخص

ركزت هذه الدراسة على عشرة حصاوى كلى لمرضى سودانيين باستخدام تقنية مطيافية الأشعة تحت الحمراء ، وبلازما الحث المزدوج / الانبعاث الضوئي الطيفي (ICP/ES)، جمعت هذه العينات من مستشفى الخرطوم التعليمي وقد أجري التحليل الإحصائي

لبيانات مرضى حصاوى الكلى للسنوات من 1999 حتى 2005 باستخدام برنامج التحليل الإحصائي.

من أطياف الأشعة تحت الحمراء وجد أن حصاوى اوكسالات الكالسيوم وحمض اليوريك هي اكثر الحصاوى انتشارا بين المرضى السودانيين. أجرى تحليل للعناصر وتحصلنا على تراكيز العناصر التالية Ca، P، Na، Mo، Mn، k، Fe، Cu، Cr و Mg. تم العثور على المتوسطات لهذه التركيزات كالتالي 34.75،0.16، 32.67، 784.95، 0.058، 1.35، 840.18 جزءا من المليون و 0.41، 10.57، 13.33 wt% على التوالي.

التحليل الإحصائي دلل على أن الرجال أكثر عرضة لتكون الحصاوى من النساء وأن أكثر الفئات العمرية تعرضا للحصاوى من عمر 25 سنة وأكثر .

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