الآيــة

قال تعالى :

(وفى انفسكم افلا تبصرون)

سورة الذاريات : الأية 21

Dedication

To my parent

To my brothers

To my teachers

To my friends

Acknowledgement

My full thanks to GOD in every thing. My great and deep gratitude to my supervisor Dr .HUSSAIN AHMED HASSAN

I offer my regards and blessings to all of those in modern medical center radiologists , technologist, and staff .

To whom helped me I gave them my great thanks .

Abbreviations

CT	**Computed tomography**
Kerma	kinetic energy relies by unit mass
P	The pitch
L	The scan length
1	The table increment
Kv	Kilovoltage
mAs	milli ampere second
mGy	mili Gray
C TDI	Computed tomography dose index
C TDIw	weighted Computed tomography dose index
CTDlv	volume Computed tomography dose index
nCTDlw	normalized weighted computed tomography dose
DLP	Dose Length Product
E	The effective dose
RP	Radiation Protection
SI	Standard International
NRPB	National Radiation Protection Board
IEC	International elcctrotechniqual commission
UK.	United Kingdom
DRL	Diagnostic Reference Level
ACR	American College of Radiologists
EC	European Commission
ICRP	International CommissioRadiologicalProtection
R	Roentgen
X	Exposure
S I P	standard temperature and pressure

Abstract

The use of CT in medical diagnosis delivers radiation dose to patients that are higher than those from other radiological procedures . Lake of optimized protocols could be an additional Source of Increased dose .

The goal of study was estimating radiation dose from CT Scan for the patients at modern medical center in Khartoum .

Details of this study have been taken from 35tests of patients by CT scan .and radiation dose have been calculated from volume CT dose index , Dose length product .

The most important results that the Dlp average is 311.7 ±306.34 mGy cm ,CTDI is 7.60±2.54 mGy. And E=37.41

الملخص

استعمال الاشعه المقطعيه فى مجال التشخيص الطبى يعطى جرعه اشعاعيه عاليه للمرضى اكثر من اى جهاز تشخيص طبى اخر .قله استعمال برتوكولات مثاليه مناسيه ادت الى زياده الجرعه .

هدف الدراسه هو تقدير الجرعه الاشعاعيه من اختبارات التصوير بالاشعه المقطعيه للمرضى فى المركز الطبى الحديث بالخرطوم .

تفاصيل هذه الدراسه اخذت من 35 اختبار للمرضى بواسطه الاشعه المقطعيه .تم حساب الجرعات الاشعاعيه للمرضى من موشر جرعه الاشعه المقطعيه ,volume CT dose Index والجرعه الاشعاعيه الكامله , Dose length product والجرعه الفعاله Effective dose.وحسبت لكل اختبار استعمال عوامل متعلقه بالتعرض الاشعاعى .

ومن اهم النتائج ان متوسط CTDI=7.6048 mGy ، DLP = mGy-cm 311.77 ,E=37.41 sv

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