

الآية

قال تعالى :

(مَسْأَلَتُكَ عَنِ الْوُجُهِ فِي الْوُجُهِ لِيُزَيِّنَ لِي، وَمَا أُوتِيتُمْ فِي الْعِلْمِ إِلَّا
قَلِيلًا)

صدق الله العظيم

الإسراء الآية 85

ABSTRACT

This study aims to assess the effective dose radiation received by pediatric brain when the ages from (1 month to 168 month). Study included number of 30 patients. Two type of computed tomography machines (dual slice – 64 slice) where used in this study . The study was conducted at three radiation centers in Khartoum. After the effective dose was measured throw (Dose length product) the study showed that the average effective dose was (1.464965 mSr).

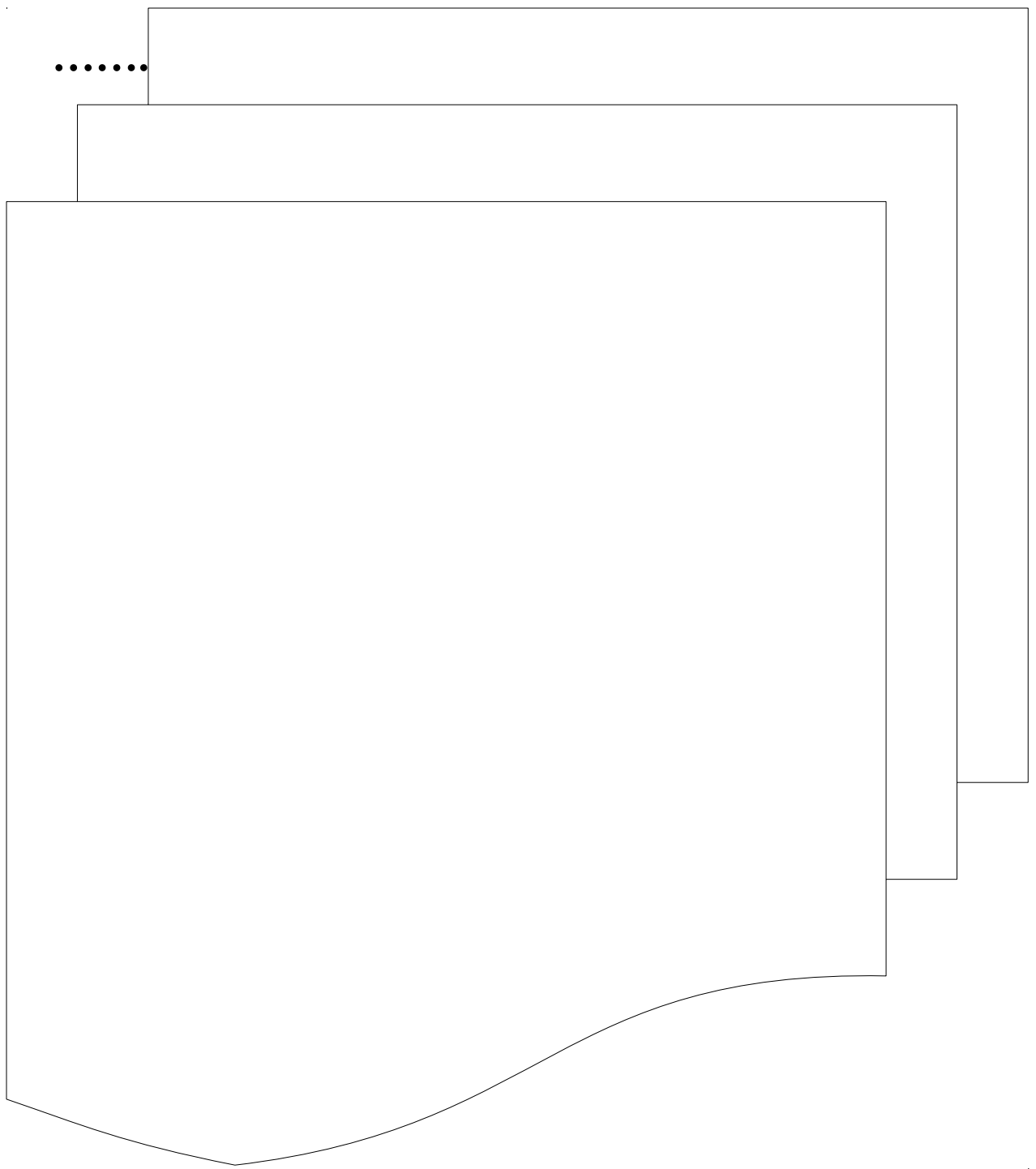
The effective dose compared with the age of each patient. It was found that the effective dose was directly proportional with the age, and that was an inverse relation between the effective dose and slice thickness. When the radiation dose was compared with the used machines it was found that the dose was greater when the 64 slice machine was used.

مست

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مقارنة
الفعالة
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بن عمر
في هذه
الخرطوم
نتجه)
(. تم
الجرعة
مه ووجد

.....**To my parents**



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Abbreviations

Abbreviation	statement	Page number
CT	Computed tomography	4,14,27,35,36,40,41,52,53,66
L	The scan length	30,36
Kv	Kilo voltage	35
MDCT	Multi detector CT	55,56
mGy	mili Gray	49,50
CTDI	Computed tomography dose index	49,59
CTDI _w	weighted Computed tomography dose index	49

CTDIvol	volume Computed tomography dose index	49,50
DLP	Dose Length Product	50
ED	The effective dose	61,62,63,64
RP	Radiation Protection	9,47
NRPB	National Radiation Protection Board	57
IEC	International commission	25
DRL	Diagnostic Reference Level	51,57
ICRP	International Commission Radiological Protection	22,23,24,25,51,70,71
EMR	Electromagnetic radiation	5,6