

الآيه

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قال تعالى :

(قل هل يستوي الذين يعلمون والذين لا يعلمون انما يتذكر أولو

الالباب) (الزمر 9)

صدق الله العظيم

Dedication

Every challenging work needs self-efforts as well as guidance of elders
especially those who were very close to me.

To those of the fingers to give us a life of happiness.

My holy effort I dedicate to my mother.

To reap the thorns out of my way for me to pave the way science

To my father

Whose affection, love, encouragement, and prays of day and night make me
able to get such success and honor,

Along with all hard working and respected teachers

To my brothers, sisters, friends, and to all my family.

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good discussions, all the inspiration they have given me, and for all the fun we have had!

Abstract.

This study was respective which carried out for Measurement of Internal Radiation Dose during Thyroid Cancer using Iodine 131 by Monte Carlo simulation in Radiation & Isotopes Center of Khartoum (RICK). A sample of 30 adult thyroid cancer patients were investigated over a period of two months. the data required calculation internal dose and effective dose were recorded by the researcher (data sheet). ,and the values calculated analyzed by Microsoft excel.

In this study the result were (for thyroid 759.93 GY with in acceptable tolerance ,esophagus 20.02GY,sivary gland 10.17 GYand the effective dos 35.59GY).

The study found that a weak correlation was shown between organ and dose, and there are a strong correlation between thyroid dose and(age, weight and high) and there is strong correlation between time and the activity .

The study recommended that daily survey to patient to ensure (that the dose reduction step by step ,patient flow physicist's order like drink lot of water ,wash his body frequently and supplied the patient by optimal environment during period of it's isolation in the hospital and ensure that no one from public can get him except especial case which he need it until the dose come down.

الخلاصة:

الدراسة اختصت بقياس الجرعة الداخلية لمرضي سرطان الغده الدرقيه باليود 131 بواسطة مونتكارلو في مستشفى الخرطوم للطب النووي والعلاج الاشعاعي . وشملت الدراسة 30 مريض بسرطان الغده الدرقيه وكانت فتره الدراسة شهرين وقد سجلت العلوامات المطلوبه لحساب الجرعه الداخليه والجرعه المكافئه بواسطه الباحث وتم حساب الجرعات وتم تحليلها.

وقد خلصت الدراسة الي النتائج الاتيه جرعه(الغده الدرقيه 759.93 جراي والجرعه في الرئه 3.87جراي وفي الغده اللعابيه 10.17جراي و المرئ 20.02جراي. و الجرعه المكافئه كانت 35.59جراي)

وقد وجدت الدراسة ان هنالك ارتباط ضعيف بين الجرعه الداخليه و اعضاء الجسم . اما الارتباط بين الجرعه الداخليه و(العمر, الطول, الوزن) و النشاط الاشعاعي والزمن فقد كان قويا

الدراسة توصي بالمسح اليومي للجرعه علي المريض للتأكد من هبوط الجرعه ,الاستحمام المتكرر ,توفير بيئه ملائمه للمريض خلال فتره عزله في المستشفى والتأكد من عدم وصول الاخرين له الا عند حاجته الماسه حتي تهبط الجرعه للمستوي المطلوب.

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Abbreviations

DTC	differentiated thyroid cancer
ICRP	International commission of radiation protection
TRH	Thyroid release hormone
TSH	Thyroid-Stimulating Hormone
RIC	Radiation & Isotopes Center of Khartoum
MC	Monte Carlo
DE	Effective dose
A	Activity