الايـــــــة

بسم الله الرحمن الرحيم

هَلْ أَتَىٰ عَلَى الْإِنسَانِ حِينٌ مِّنَ

الدَّهْرِ لَمْ يَكُن شَيْئًا

مَّذْكُورًا {١}

صدق الله العظيم

سورة الانسان

DEDICATION

To all whom support me:

My father

My mother

My greenta

My friends

Without their love and support this project would not have been made possible…!!!

Acknowledgement

We are grateful to our god. Also we would like to thank my supervisor Dr: Caroline Edward, the staff of Modern Medical Center and Alaml National Hospital for good contact and relation and for helping me in collecting data. Finally we would like to thank everyone who has participated in the completion of this study.

Abstract

The brainstem is so important structure that contains many centers which control some vital processes like cardiac rhythm, sleep cycle and respiratory procedure. Also ten of the cranial nerve originated from the brain stem.

The study was done in the Modern Medical Center and Alaml National Hospital at time from January to march with general electric and Phillips machines with power of 1.5T for both them.

The study done to determine normal brainstem dimensions in Sudanese population also to measured in sagittal T1and axial T2, in addition to correlate the findings gender and skull diameter with age.

The subjects aged between 1-86 years in both gender were included in the study, all were diagnosed as normal brain MRI.

MRI sagittal T1 and axial T2 weighted images were obtained, measurements taken for Pons, midbrain and medulla oblongata. All measurement taken in mm.

Correlation between skull antroposterior, transverse diameters and brainstem parts measurement in both sequences with age were studied.

The results showed that all the values have linear relationship with age.

The study showed that the measurements of the brainstem structure were found to be at similar range comparing with other population.

MRI had great value in the accurate measurements.

ملخص البحث

نخاع جذع الدماغ عضو مهم ويحتوى على عدد من المراكز التى تتحكم فى بعض العمليات الحيوية المهمة مثل ايقاعية القلب، دورة النوم وعملية التنفس. ايضا عشرة من اعصاب الدماغ تخرج من نخاع جذع الدماغ.

تم عمل الدراسة فى المركز الطبى الحديث ومستشفى الامل الوطنى فى الفترة من يناير الى مارس باجهزة جنرال الكترك وفليبس بقوة ١.٥تسلا.

عملت هذة الدراسة لتحديد مقاسات نخاع جذع الدماغ الطبيعى لدى المجتمع السودانى، وقياسة ايضا فى المقظع الجانبى والمحورى فى الزمن الاول والثانى، بالاضافة الى ربط نتائج الجنس ومحيط الدماغ مع العمر.

كانت اعمار الحالات بين ١الى ٨٦ سنة فى الجنسين اضيفت فى الدراسة، وجميعهم شخصوا كاصحاء فى فحص الدماغ بالرنين المغنطيسى.

اخذت القياسات فى المقطع الجانبى والمحورى فى الصور، واخذت القياسات للبروز الامامى، الدماغ الاوسط والنخاع المستطيل وكانت كل القياسات بالمليمتر.

تمت دراسة العلاقة بين قطر الراس الافقى والراسى لنخاع جذع المخ والقياسات فى الصورتين مع العمر.

اظهرت النتائج ان كل القيم لها علاقة خطية مع العمر.

اظهرت الدراسة ان قياسات جذع نخاع الدماغ للسودانيين فى نفس مدى القياسات مقارنتا مع غير السودانيين.

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Abbreviation

ACR	American college of radiology
AP	Antroposterior
Axi	Axial
Cm	Centimeter
CN	Cranial nerve
CSF	Cerebro-spinal fluid
CT	Computed tomography
F	Female
FLAIR	Fluid attenuation inversion recovery
FMRI	Functional magnetic resonance imaging
FOV	Field of view
M	Male
mm	Millimeter
MRA	Magnetic resonance angiography
MRI	magnetic resonance imaging
PD	Proton density
PPN	Pedunculo-pontine nucleus
RF	Radio-frequency
Sag	Sagittal
STD	Stander deviation
T	time
TRV	transverse

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