بسم الله الرحمن الرحيم

قال تعالى:

ألم نشرح لك صدرك (1) ووضعنا عنك وزرك(2)

الذي انقض ظهرك(3)ورفعنا لك ذكرك(4) فان مع العسر يسرا "(5)ان مع العسر يسرا(6) فاذا فرغت فانصب(7)والى ربك فارغب(8)

صدق الله العظيم

سورة الشرح

Dedication

I dedicate this thesis

To my parents

For the generous and endless support through all my life

To my 2 little sisters Abeer, Asjad

To my uncle Aboabida Banaga

To My large family

To the people whom I love

To my friends

Ahmed, Sara, Massad, Zainab, Aisha, Waddah

To All my colleges

Without their patience, understanding supports, and most of all love; the

completion of this work would not have been possible

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Abstract

The purpose of this study was to evaluate the Sudanese Female gynecological measurements by using sagittal T2, Magnetic Resonance Imaging 1.5T in Khartoum state and comparing the results with the Standard European Measurements the target populations of this study were 62 Sudanese female with ages group between (16-75 years old) during the period from Aug 2010 to Oct 2011 and the age group which have the large frequency was 37-47 years (significant age gropes) old 16 patients 25.8% all the patents are examined for MRI pelvis investigation.

The variables under study were five variables, the Sudanese female pelvic measurement (uterine cervix caraniocaudal , uterus length , pelvic out let , pelvic cavity , true conjugate) is 1.9cm , 7.8cm , 8.9cm , 12.3cm , 11.3cm respectively and the standard European female pelvic measurements was (≤2cm , 8cm , 9cm , ˃12cm , 11cm) respectively .

The comparing show there are completely agreement in two variables (uterine cervix cranio caudal and the pelvic cavity) but another variables that show little difference in values was (uterus length, true conjugate, pelvic outlet).

The study prove they are correlation between the age and the studied variable either by increasing (pelvic out let, uterus length, pelvic cavity) and the variable that show decreasing with age increasing (uterine cervix cranio-caudal, true conjugate) there are different variables can't be measured in the sagittal T_2 and they are vagina and ovaries .

الخلاصة

كان الغرض من هذه الدراسة لتقييم قياسات حوض الأنثى السودانية باستخدام لتصوير بالرنين المغناطيسي 1.5 تسلا (بالنبضة التسلسلية في زمن الأسترخاء الثاني مقطع سهمي) مقاطع سهمية وتمت الدراسة بولاية الخرطوم , ومقارنة نتائج القياسات بقياسات الأنثى الأوروبية وكانت الفئة المستهدفة في هذه الدراسة 62 أنثى سودانية والذين كانت أعمارهم بين 16-75 سنة وكانت الفئة العمرية ذات التردد العالي هي 47- 37سنة 16 مريضا" بنسبة 25.8 ٪ وقد تمت جميع قياسات الحوض بواسطة التصوير بالرنين المغناطيسي في الفترة من أغسطس 2010 الى أكتوبر 2011.وكانت المتغيرات قيد الدراسة عبارة عن خمس متغيرات لقياسات الحوض للأنثى السودانية)عنق الرحم بوضع رأسي ذنبي ، طول الرحم , مخرج الحوض ,تجويف الحوض ، مدخل الحوض) هي 9. 1 سم ، 7.8 سم ، 8.9 سم ، 12.3 سم ، 11.3 سم على التوالي وكان قياسات الحوض المعيارية للأنثى الأوروبية هي ≤2 سم ، 8 سم ، 9 سم ، < 12 سم ، 11 سم على التوالي وأظهرت المقارنة توافقا" كاملا" في اثنين من المتغيرات) عنق الرحم بوضع رأسي ذنبي وتجويف الحوض (ولكن المتغيرات الأخرى أظهرت اختلاف طفيف في قيم قياسات) طول الرحم ، مدخل الحوض ، مخرج الحوض(وأثبتت الدراسة أن هنالك علاقة بين العمر والمتغيرات المدروسة إما عن طريق اظهار زيادة مع التقدم في السن وهي) مخرج الحوض، وطول الرحم وتجويف الحوض (والمتغيرات التي تظهر نقصانا" مع

التقدم في السن هي) عنق الرحم بوضع رأسي ذنبي ، مدخل الحوض(مما خلصت منة الدراسة أن هنالك متغيرات لايمكن قياسها بواسطة البرتكول المتبع (المقطع السهمي لزمن الأسترخاء الثاني) في الدراسة وهي المبايض والمهبل.

List of abbreviations

CT	**Computed tomography**
FOV	**Field of view**
Gd-BOPTA	**Gadobenate dimeglumine**
Gd-DTPA	**Gadolinium diethylenetriamine pentaacetic acid complex**
HPV	**Human Papilloma Virus**
L4	**Lumber vertebral number 4**
L5	**Lumber vertebral number 5**
MRI	**Magnetic Resonance Imaging**
RF	**Radio Frequency**
ROI	**Region OF Interest**
STD	**Standard Deviation**

T	**Tesla (the unit of magnetic field strength)**
T1	**T1 Relaxation Time**
T1WI	**T1 Weighted imaging**
T2	**T2 Relaxation Time**
T2WI	**T2 Weighted imaging**
TE	**Echo Time**
TI	**Inversion time**
TR	**Repetition Time**
U\S	**Ultra sound**

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