بسم الله الرحمن الرحيم

Sudan University of science and technology College of graduate studies

Characterization of knee joint Osteoarthritis Deformities using CT Scanogram

توصيف تشوهات التهاب مفصل الركبة باستخدام الاشعة المقطعية

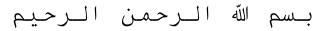
A thesis submitted for fulfillment of the requirements for the MSC in diagnostic radiology

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الآية

قال تعالى:

(أمن هو قانت إناء الليل ساجداً و قانتاً يحذر الأخره و يرجو رحمه ربه قل هل استوى الذين يعلمون و الذين لا يعلمون إنما يتذكر أولو الألباب).

سوره الزمر الآية: ٦

Dedication

To mymother

Who deals with my all difficulties to make life easy for me since childhood until now and forever, I hope the paradise ... be your ever after home

To my father

My childhood companion may Allah bless ... you

To my brothers and sisters

You are full of compassion may Allahprotect you and your children

To my friend

Thanks for your support and encouragement

Acknowledgement

Grateful acknowledgement is made to my teacher, Supervisor, Ikhlas Abdul-Aziz Hassan

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Farsighted and generous help has assisted greatly in the Development of this study

The assistance and considerable help and support from Dr.

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I want to thanks Dr.alldeen mohmed for generous help My all thanks for all patients whose give me their Information and thanks for my colleagues.

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And Nuclear Medicine at Ribat university and everybody

Who made this research possible

The researcher

ABSTRACT

Osteoarthritis (OA) is a disease of the entire joint involving the cartilage, joint lining, ligaments, and underlying bone. The breakdown of these tissues eventually leads to pain and joint stiffness. Varus and valgus malalignment of knee is risk factor for predicator of function decline in people with osteoarthritis. general objective of this study was To characterize the knee Osteoarthritis deformities by using CT Scanogram, specific objective were to measure HKA angle to judge in varus and valgus, correlate effected side (right or left) ,correlate deformities with age and to correlate deformities with gender. CT scanogram were use in this study. This study has found that varus deformities is more prevalence between men than women, The percentage of varus deformities in right is male with frequency26 percent 52% than female with frequency 23 percent 46%, And the left knee deformities with frequency 24 percent 48% in male and female. The varus deformities in right and left knee has higher frequency In male the varus deformities, valgus are most common in female in both side Age group (70-80) has higher frequency 13 percent 26% as result of DJD

المستخلص

هشاشة العظام هواحدامراض المفاصل ويمتدتاثيره الي

الغضروف، بطأنة مشتركة، والأربطة، والعظام الكامنة. انهيار هذها لأنسجة يؤدي فيال نهاية إلى الألم والتصلبات اعوجاج الركبة الي الخارج او الداخل هو عامل خطريؤدي من المنفاض وظيفة في الأشخاصالذين يعانون من هشاشة العظام. وكان الهدف العام لهذه الدراسة لتوصيف تشوهات الركبة هشاشة العظام باستخدام الاشعة المقطعية سكانوغرام، وكان الهدف المحدد لقياس زاوية الاتش كيه اي وهي اختصار للزاوية التي تربط عظم الحوض والركبة ومفصل القدم ،اهداف الخاصة للدراسة للحكم في التقوسات الي الداخل او الخارج، وترابط مع الجانب (يميناويسار)، وربط التشوهات معالتقدم في السن، وربط التشوهات مع نوع الجنس. وقد استخدمت الاشعة المقطعية او السكانو غرام في هذه الدراسة. وقدوجدت هذهالدراسة أن تشوه التقوس السكانو غرام في هذه الدراسة. وقدوجدت هذهالدراسة أن تشوه التقوس ونسبة 25٪ من الإناث مع تردد 22 ونسبة 46٪، وتشوهات الركبة اليمين واليسار لديها اعلي ونسبة 48٪ في الذكور والإناث. تشوهات الركبة للداخل اليمين واليسار لديها اعلي تردد ونسبة عند الرجال مقارنة بالنساء اللائ لديهن اعلي نسبة تشوهات للخارج اما الفئات العمرية فا كثر فئة معرضة للتشوهات هي مابين 70 و80 سنة نتيجة لي عوامل وتغيرات خلقية تنشاء نتيجة للتقدم في العمر.

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List of abbreviations

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Abbrev.	Stand for
+VE	Positive
-VE	Negative
AC – AC	Acetabulum to Acetabulum distance
DISTANCE	
FH-FH	Femoral Head to Femoral length
LENGTH	
FO	Femoral Offset
ННС	Height of Hip Center
HKA ANGLE	Hip Knee Ankle angle
HX	History
OA	OSTEOARTHRITIS
DJD	DEGENRATIVE JOINT DISEASE
BMD	Bone mineral diseases
IBM SPSS	International Business Machines Statistical
	package for the social sciences
MOST	Multicenter Osteoarthritis Study
KAM	knee adduction moment