

Dedication



TO

- **My family**
- **My colleagues**
- **Dear Teachers**
- **My Friends and to the good
Old days of college of
Radiological
sciences.**
- **And to all who HAD HELPED
ME IN MY LIFE.**

Elwaleed

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Abstract

To investigate the diagnostic accuracy of the high resolution computerized tomography in evaluating and detecting the level of

small pulmonary bronchial and obstructive lung disease. This research deal with comparison between conventional CT and HRCT – high resolution computerized tomography in detection of bronchial diseases.

50 patients clinically diagnosed as obstructive lung disease were studied between January and June 2008 in Alsha'ab teaching hospital, Police hospital and Yastabshroon medical center.

The patients underwent CT and HRCT-high resolution computerized tomography to compare the efficiency of each procedure, and the data of each examination was analyzed and show the significant relation ship between the tow investigations.

The data is analyzed by the T-test analysis program and showed sig (2-tailed) > 0.001 for the appearance of both anatomy and pathology by the conventional CT procedure, and showed sig (2-tailed) < 0.001 for the appearance of both anatomy and pathology by the HRCT-high resolution computerized tomography; and this mean the first result is effective but not acceptable and the second result is accurate and acceptable according to the statistic program.

The analysis result proves that the higher accuracy of HRCT in evaluating of small pulmonary bronchial diseases in 100 per cent of the patients.

Lately HRCT play an important role in the diagnosis of obstructive lung diseases.

الخلاصة

في هذه الدراسة تم قياس دقة التصوير بالاشعة المقطعية ذات الوضوح العالي في تشخيص أمراض الشعب و الممرات الهوائية الدقيقة. أجريت هذه الدراسة في أقسام الاشعة المقطعية بمجمع يستبشرون الطبي ومركز الخرطوم المتطور و مستشفى الشرطة. امتدت هذه الدراسة من يناير/ 2008م حتى يونيو 2008م. أخذت عينه عشوائية من المرضى (رجال، نساء) تتكون من خمسين مريض لديهم انسداد في الشعب الهوائية مختلفي الأعمار والأعراض، خضع كل المرضى لإجراء فحص بالاشعة المقطعية العادية والاشعة ذات الوضوح العالي لتوضيح التشخيص الدقيق للانسداد في الشعب الهوائية. تم تحليل بيانات المرضى الكلية لمقارنة و توضيح دور كل فحص , و اثبتت النتائج افضلية الاشعة المقطعية ذات الوضوح العالي في التشخيص. تصوير الرئتين بواسطة الاشعة المقطعية ذات الوضوح العالي تمكن من تحديد مستوى وأسباب الانسداد في الشعب الهوائية في كل المرضى بالعينة. كذلك تمكن من المشاهدة الدقيقة و تحديد أنواع مختلفة لأمراض الممرات الهوائية الدقيقة المسببة للانسداد في الشعب الهوائية. أخيرا نجد أن تصوير الرئتين بواسطة الاشعة المقطعية ذات الوضوح العالي يلعب دورا هاما في تشخيص حالات الانسداد في الشعب الهوائية و اكتشاف أنواع أمراض الممرات الهوائية الدقيقة بنسبة مائة في المائة .

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ABBREVIATION

CHRCT: Chest High Resolution Computerized Tomography.

HRCT: High Resolution Computerized Tomography.

CT: Computerized Tomography.

HU: Hounsfield Units.

RB: Respiratory Bronchioles.

DIP: **Desquamative interstitial pneumonia.**

ILD: **Interstitial Lung Disease**

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