VIRTUAL MULTISLICE COMPUTED TOMOGRAPHY CYSTOSCOPY

Essay

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In Radiodiagnosis

Presented by

Mohamed Ahmed Ahmed Shendy

M.B.B.Ch
Faculty of medicine
Beni Suef – Cairo University

Supervised by

Prof. Dr. Niviene Mostafa
Professor of Radiodiagnosis
Faculty of Medicine - Ain Shams University

Dr. Samir Foad Abdel Ghafar
Lecturer of Radiodiagnosis
Faculty of Medicine - Ain Shams University

Faculty of Medicine
Ain Shams University
٢٠٠٧

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منظار المثانة الإفتراضي بالأشعة المقطعية متعددة الكواشف

رسالة مقدمة من

الطبيب/ محمد أحمد أحمد شندى
بكالوريوس الطب و الجراحة
كلية الطب
جامعة القاهرة- فرع بنى سويف

توطئة للحصول على درجة الماجيستير فى الأشعة التشخيصية

تحت إشراف

أ.د/ نيڤين مصطفى
أستاذ الآشعة التشخيصية
كلية الطب- جامعة عين شمس

د/ سمير فؤاد عبد الغفار
مدرس الآشعة التشخيصية
كلية الطب- جامعة عين شمس

كلية الطب
جامعة عين شمس
٢٠٠٧

LIST OF CONTENTS

ABBREVIATIONS

CT: Computed Tomography

WHO: World Health Organization

ISUP: International Society of Urological

AJCC: American Joint Commission on Cancer

UICC: Union Internationale Contre le Cancer

LIST OF TABLES

Page

LIST OF FIGURES

Page

Introduction and aim of work

Virtual CT cystoscopy is a promising technique to be used in the detection of bladder lesions. In the future, it may be possible or even advantageous to incorporate it into the imaging algorithm for evaluation of bladder lesion [١].

Multidetector row CT is the most recent advance in CT technology. An increased number of detector rows and more powerful x-ray tubes result in faster scanning time, increased volume coverage, and improved spatial and temporal resolution. MDCT (multidetector computed tomography) technology allows superior image quality, decreased examination time, and the ability to perform complex multiphase vascular and three-dimensional examinations[٢].

The introduction of (MDCT) with the possibility of acquiring isotropic datasets has been an ideal prerequisite for development of virtual MDCT cystoscopy. Remarkable technical progress regarding post-processing of high-resolution ٣D datasets as well as a considerable reduction of the time required for post-processing made it possible to introduce virtual MDCT cystoscopy into the clinical routine. ٣D post-

processing that often required ٧–٨ h when virtual endoscopy techniques were first developed can now be performed in less than ٥ min after transfer of data to the ٣D workstation. With the limitations and contraindications of conventional cystoscopy in mind, virtual MDCT cystoscopy may be seen as a valuable alternative to conventional cystoscopy for evaluation of hematuria[٣].

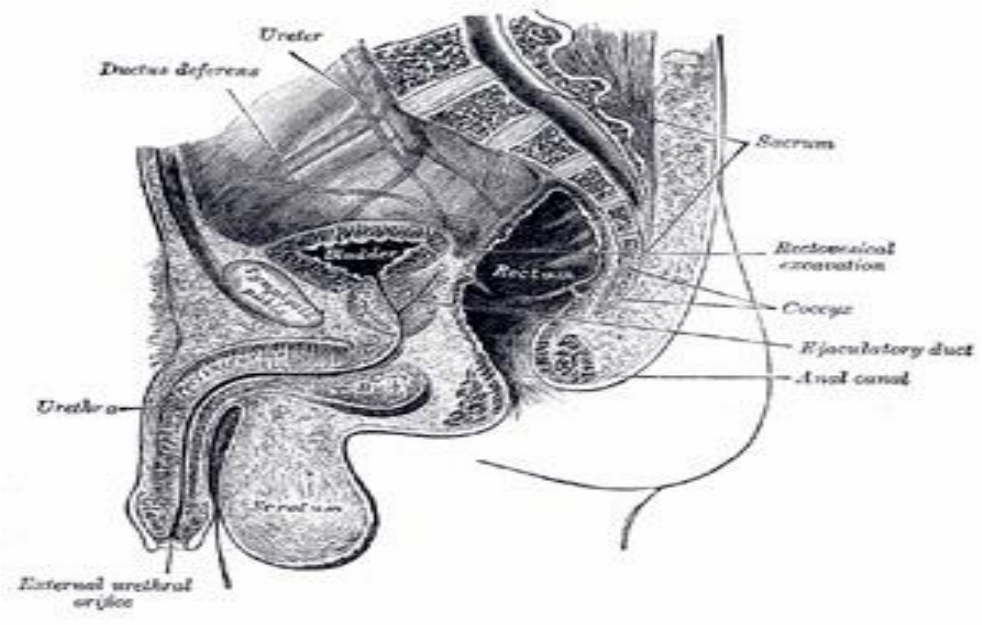
As virtual MDCT cystoscopy is an expensive technique so it is not used in all urinary bladder lesions, as most lesions are diagnosed by ordinary techniques as excretory urography, ultrasound and computed tomography in various combinations (as stones, urinary tract infection, congenital anomalies and most of tumors). The role of virtual MDCT cystoscopy appears in cases of negative ordinary tools as it has high sensitivity in detection of most diseases[٣].

Aim of work:

To assess the usefulness of virtual cystoscopy performed with multidetector computed tomography in patients with different urinary bladder pathologies.

Anatomic Relationships

The ***urinary bladder*** (figure ١،٢) is a musculomembranous sac which acts as a reservoir for the urine; and as its size, position, and relations vary according to the amount of fluid it contains, In both conditions the position of the bladder varies with the condition of the rectum, being pushed upward and forward when the rectum is distended(٤).



(Figure ١): Median sagittal section of male pelvis(°).