

NON CORONARY LESIONS DETECTED ON MULTI-DETECTOR ROW CARDIAC COMPUTED TOMOGRAPHY IN PATIENTS WITH ATYPICAL CHEST PAIN

By

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ABBREVIATIONS

bpm	beat per minute
CABS	Coronary artery bypass surgery
CAD	Coronary artery disease
Ca-scoring	Calcium-scoring
Cds	Compact discs
cm	Centimeter
CT	Computed tomography
DLP	Dose length product
EBCT	electron beam computed tomography
ECG	Electrocardiogram
KV	Kilovolts
LBBS	Left bundle branch block
LP	Line pair
MA	Milliampirage
MDCT	Multidetector computed tomography
MI	Myocardial infarction
ms	Millisecond
mSv	Millisevert

NSTEMI	Non ST elevation myocardial infarction
S	Seconds
STEMI	ST elevation myocardial infarction
US	Unstable angina
C\$	Canadian dollars

ABSTARK

Tujuan: Kami bertujuan untuk mengkaji prevalens abnormaliti bukan koronari yang boleh dikesan melalui MDCT angiografi kardiak bagi pesakit yang mengalami sakit dada ‘atypical’. Prevalens bagi simptom ‘atypical’ untuk kumpulan kajian dan hubungkait di antara abnormality bukan koronari dan simptom ‘atypical’ telah dilaporkan.

Kaedah :Seramai 123 pesakit telah menjalani MDCT kardiak di Hospital Adventist, Pulau Pinang dari Mei 2005 sehingga Novemenber 2009. Imej telah dilihat oleh dua orang pakar radiologi yang tidak mengetahui mengenai penemuan klinikal(blinded). Imej dilihat di dalam empat ‘CT windows ‘ yang berlainan . Abnormaliti bukan koronari telah dikaji dan direkodkan.Simptom permulaan telah dimaklumkan bagi semua pesakit.

Keputusan:Abnormaliti bukan koronari telah ditemui di dalam 91(73.9%) pesakit, di mana di dalam kumpulan ini ,abnormaliti ‘ ekstra koronari’ sebanyak 5(4.1%) adalah signifikan dan boleh dianggap penemuan tidak berbahaya yang tidak memerlukan pemeriksaan selanjutnya.

Abnormaliti pada paru-paru didapati di dalam 81(65.8%) pesakit , abnormaliti kardiak di dalam 1(0.8%) pesakit , abnormaliti salur darah di dalam 24(19.5%) pesakit , nodus limfa mediastinum di dalam 33(26.8%) pesakit . abnormaliti esofagus di dalam 1(0.8%) pesakit , abnormaliti hati di dalam 43 (39.8%) pesakit , abnormaliti limpa di dalam 11(8.9%) pesakit , abnormaliti tulang di dalam 5(4.1%) pesakit dan lain- lain abnormaliti di dalam 7 (5.7%) pesakit.Di dalam kumpulan kajian , 33 (26.8%) pesakit telah diimbis disebabkan sakit di tangan/kaki , ‘epigastrik’, bahu atau di leher, manakala lain-lain pesakit diimbis untuk tujuan saringan . Di dalam 33 pesakit , 5(4.1%) pesakit mengalami ‘bulla ‘paru-paru

, perubahan paru-paru 'interstitial' di dalam 5(4.1%) , pembesaran hati di dalam 11(8.9%) pesakit dan 4 (3.3%) pesakit menunjukkan penemuan lain-lain.

Rumusan: Kajian kami menyokong beberapa kajian lain yang telah menekankan mengenai kepentingan melihat dan mengkaji imej struktur bukan kardiak yang diimbaskan bersama jantung dan arteri koronari dengan berhati-hati , sebagai sebahagian dari pemeriksaan MDCT kardiak angiografi, sebaik-baiknya oleh pakar radiologi atau pakar jantung terlatih. Sebarang abnormaliti bukan kardiak yang signifikan hendaklah dilaporkan dan mendapat pemeriksaan susulan di bawah pengawasan yang jelas dan spesifik . Pesakit yang mengalami abnormaliti bukan koronari yang tidak signifikan tidak memerlukan pemeriksaan susulan dan selanjutnya , kerana ia boleh memberikan beban psikologikal dan ekonomi kepada pesakit.

ABSTRACT

Purpose: The study aimed to report the prevalence of non-coronary lesions detected on Cardiac MDCT angiography in patients with atypical chest pain. The prevalence of atypical symptoms for the study group and the association between the detected non coronary lesions and atypical symptoms were also reported.

Methods: A total of 123 patients underwent cardiac MDCT in Adventist hospital , Penang . from May 2005 until November 2009. Images were reviewed by two radiologists who were blinded to the clinical findings. Images were reviewed in four different CT windows and non coronary lesions were observed and recorded. The presenting symptoms were also noted for all those patients.

Results: Non coronary lesions were found in 91 (73.9%) patients . Of these extra-coronary lesions 5 (4.1%) were significant and required further follow up and evaluation while the rest were not significant and can be considered benign findings with no need for further evaluation.

Lung lesions were seen in 81(65.8%) patients, cardiac abnormalities in 1(0.8%) patient, vascular abnormalities in 24(19.5%) patients, mediastinal lymph nodes in 33(26.8%) patients, esophageal abnormalities in 1(0.8%) patient, liver abnormalities in 49(39.8%) patients, splenic lesions in 11(8.9%) patients, bone abnormalities in 5(4.1%) patients and other abnormalities in 7(5.7%) patients. In the study group 33(26.8%) patients were scanned due to pain in the arms, epigastrium, shoulder or in the neck and the rest were scanned for screening.

Of these 33 patients 5(4.1%) patients had lung bulla , interstitial lung changes were seen in

5(4.1%) patients, hepatomegaly were seen 11(8.9%) patients and in 4(3.3%) patients with other findings.

Conclusion: Our study supports several other studies that highlighted the importance of careful reviewing of the non cardiac structures that was scanned with the heart and coronary arteries as part of cardiac MDCT angiography , preferably by a radiologist or trained cardiologist. Any significant non coronary lesions must be reported and followed up if necessary under clear and specific guidelines . Non significant coronary lesions need no follow up and should not require further investigations that may put more psychological and economic burdens on the patients.