



UNIVERSITI TEKNOLOGI MARA (UiTM)

**UTILISING PULSE WAVE VELOCITY IN
ASSESSING ARTERIAL STIFFNESS IN
PATIENTS WITH MILD-TO-MODERATE
RENAL IMPAIRMENT**

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Dissertation submitted in fulfilment of the requirements for the degree of

Master of Medicine

Faculty of Medicine

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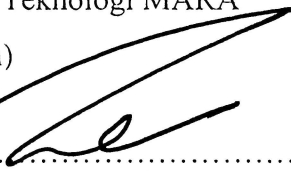
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I certify that a Panel of Examiners has met on 16th May 2015 to conduct the final examination on Ahmad Bakhtiar Bin Md Radzi on his Master of Medicine thesis entitled “Utilising Pulse Wave Velocity in Assessing Arterial Stiffness in Patients with Mild-to-Moderate Renal Impairment” in accordance with Universiti Teknologi MARA Act 1976 (Akta 1976). The Panel of Examiners recommends that the student should be awarded the relevant degree. The panel of examiners were as follow:



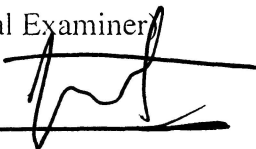
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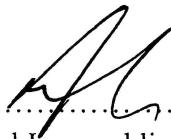
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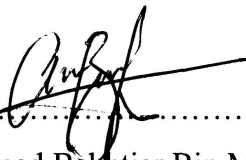
AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree, qualification or academic award.

I hereby, acknowledge that I have been supplied with the Academic Rules and regulations for Post Graduates, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Introduction:

Chronic kidney disease (CKD) is associated with increased arterial stiffness. Identification of arterial stiffness in early chronic kidney disease patients is important as they are at risk of developing cardiovascular disease. This will allow risk stratification and allocation of resource in managing this high risk group. Existing literature revealed variable findings on arterial stiffness in early CKD patients.

Objective:

We aim to compare arterial stiffness using pulse wave velocity (PWV) among patients with chronic kidney disease stage 2-4 and those with normal renal function.

Methodology:

This is a case-control study of CKD and normal renal function patients. Patients with confirmed chronic kidney disease stage 2 to 4 were recruited from various clinics in the Faculty of Medicine, Universiti Teknologi MARA, Sungai Buloh Campus, Malaysia from 1st August 2015 until 31th January 2016. Sociodemographic and anthropometric indices were recorded at recruitment. Each patient underwent a carotid-femoral (aortic) PWV measurement to determine the arterial stiffness. PWV is determined automatically with a dedicated one-probe device (SphygmoCore XCEL) in which the recorded pulse wave forms were obtained transcutaneously over the common carotid artery.

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