

Improved prediction of cardio-vascular events following acute myocardial infarction using the Ankle Brachial Index value

Thesis

*Submitted In Partial Fulfillment of The
Requirements For the Master Degree In cardiology*

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إستخدام مؤشر الكاحل الذراعى كأحد العوامل
المنبئه لحدوث مضاعفات مستقبلية فى مرض
الاحتشاء الحاد لعضلة القلب

رسالة

توطئة للحصول علي درجة الماجستير
في أمراض القلب

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- ACC:	American Colleague of Cardiology
- AHA:	American Heart Association
-ABI:	ankle brachial index
-ACS:	acute coronary syndrome
-AMI:	acute myocardial infarction
-CABG:	Coronary Artery Bypass Grafting
-CAC:	coronary artery calcification
-CHD:	coronary heart disease
-CVS:	cerebro vascular stroke
-D ₁ :	first diagonal artery
-DM:	diabetes mellitus
-DP:	dorsalis pedis artery
-DPB:	diastolic blood pressure
-FH:	family history
-HTN:	hypertension
LAD:	left anterior descending artery
-LBBB:	left bundle branch block
-LCX:	left circumflex artery
-LM:	left main
-LVEF:	left ventricular ejection fraction
-LVH:	left ventricular hypertrophy

-MVD:	multi vessel disease
-OM:	obtuse marginal artery
-PAD:	peripheral arterial disease
-PCI:	percutaneous coronary intervention
-PT:	posterior tibial artery
-PTCA:	percutaneous transluminal coronary angioplasty
-PVD:	peripheral vascular disease
-RBBB:	right bundle branch block
-RCA:	right coronary artery
-SPB:	systolic blood pressure
-STEMI:	ST segment elevation myocardial infarction—
NSTEMI:	non ST segment elevation myocardial infarction
-TIA:	transient ischaemic attack
-UA:	unstable angina

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Introduction

The ankle-brachial pressure index (ABI), which is the ratio of ankle to brachial systolic blood pressure, provides a simple measurement that can be performed in primary care settings without expensive or elaborate equipment or extensive training or experience. An ankle-brachial pressure index value <0.9 is widely acknowledged to indicate an abnormally low level (40).

Several studies have shown that a low ankle-brachial pressure index is associated with increased risk of subsequent mortality in populations, including (93) and excluding (106, 117, 118, 156, 157) people known to have cardiovascular disease (CVD).

A low ankle-brachial pressure index was shown to predict increased risk of fatal myocardial infarction in the Edinburgh Artery Study cohort (90) and increased risk of cardiovascular disease mortality in other studies (106, 117, 156, 157) independent of conventional risk factors.

In one systematic review (40), data on the relation between a low ankle-brachial pressure index and incident cardiovascular outcomes from prospective studies were examined. The researchers used weighted, rather than individual level data, so that adjustment for other risk factors



was not possible. They determined that a low ankle-brachial pressure index has a high specificity and low sensitivity for subsequent cardiovascular outcomes (40).

Their results indicated that a normal ankle-brachial pressure index alone might still be associated with increased risk of cardiovascular disease, so that further information on other cardiovascular risk factors is required.

The researchers concluded that further study of the incremental predictive role of a low ankle-brachial pressure index was required in studies that could adjust for conventional risk factors.

Effective interventions to reduce cardiovascular disease risk are available; thus it is important to identify high-risk individuals so they can be treated. Because the number of people at risk for cardiovascular disease is high, the methods used to identify such individuals should be easily performed in primary care.



Aim of the work

The aim of this study is to correlate the ankle-brachial. Pressure index value (normal or low) with six-month clinical outcome in patients hospitalized for acute myocardial infarction.

Chapter (١)

Risk factors for coronary heart disease

A risk factor for CAD is any characteristic or behaviour that increases chance for developing CHD and its complication some risk factors can be controlled or modified such as (HTN, DM, smoking,.....) and others can not as (age, sex ,family history,.....). Risk factors interact with each other, the more risk factors the greater the chances for developing CHD. Some times CAD develops with out any classic risk factors. Researches are studying other possible factors as(c-reactive protein, lipo protein (a), homocysteine,....)

١-Sex and age:

Cardiovascular risk factors promote coronary disease in either sex at all ages but with different strengths. Diabetes and a low high density

lipoprotein (HDL)-cholesterol/total cholesterol ratio operate with greater power in women [١٩,٢٠]. The incidence of a myocardial infarction is increased sixfold in women and threefold in men who smoke at least ٢٠ cigarettes per day compared to subjects who never smoked [٢١,٢٢]. Systolic blood pressure and isolated systolic hypertension are major risk factors at all ages in either sex [١٢]. The Framingham study