

Prevalence of peripheral arterial  
disease among the patients  
undergoing coronary angiography in  
one year, using ankle –arm index

Thesis

Submitted for partial Fulfillment of Master Degree  
In cardiology

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**2009**

مدى انتشار امراض الشرايين الطرفية بين المرضى الخاضعين لتصوير  
الشرايين التاجية بالصبغة فى خلال عام واحد باستخدام نسبة ضغط الدم  
الانقباضى بين شرايين الكاحل و شرايين العضد

رسالة مقدمة لدرجة الماجستير فى القلب والاعوية الدموية من الطبية:

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جامعة عين شمس ٢٠٠٩

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## **List of Abbreviations**

|               |                                            |
|---------------|--------------------------------------------|
| <b>AAI</b>    | Ankle arm index                            |
| <b>apo</b>    | Apo lipoprotein                            |
| <b>ASO</b>    | Atherosclerosis                            |
| <b>AVD</b>    | Atherosclerotic vascular disease           |
| <b>BMI</b>    | Body mass index                            |
| <b>BR</b>     | Brachial                                   |
| <b>CAD</b>    | Coronary artery disease                    |
| <b>CLI</b>    | Critical limb ischemia                     |
| <b>CVD</b>    | Cerebrovascular disease                    |
| <b>DM</b>     | Diabetes mellitus                          |
| <b>DP</b>     | Dorsalis pedis                             |
| <b>Fig.</b>   | Figure                                     |
| <b>HDL</b>    | High density lipoprotein                   |
| <b>hs.CRP</b> | High sensitivity C - reactive protein      |
| <b>HTN</b>    | Hypertension                               |
| <b>IC</b>     | Intermittent claudication                  |
| <b>LDL</b>    | Low density lipoprotein                    |
| <b>LVEF</b>   | Left ventricular ejection fraction         |
| <b>MMP</b>    | Matrix metalloprotein                      |
| <b>MS</b>     | Metabolic Syndrome                         |
| <b>PAD</b>    | Peripheral arterial disease                |
| <b>PDGF</b>   | Platelet derived growth factor             |
| <b>PT</b>     | Posterior tibial                           |
| <b>ROS</b>    | Reactive oxygen species                    |
| <b>STEMI</b>  | ST-segment elevation myocardial infarction |
| <b>TIAs</b>   | Transient ischemic attacks                 |
| <b>TF</b>     | Tissue factor                              |
| <b>VSMCs</b>  | Vascular smooth muscle cells               |









# Prevalence of peripheral arterial disease among the patients undergoing coronary angiography in one year, using ankle –arm index

## Review of literature

Ankle-arm index and peripheral arterial disease.....1

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## *Subjects & Methods*

## Subjects and methods

**I.** This study was conducted on 100 patients who were admitted to the coronary care unit of Agoza Police Authority hospital with acute coronary syndrome and would subsequently be subjected to coronary angiography, from January 2006 to January 2007.

### **Exclusion criteria:**

- 1- Patients with previous CABG.
- 2-Patients with  $AAI \geq 1.5$  (a false high level derived from calcified non-compressible arteries at the ankle level, which is commonly seen in diabetics).

### **II. All patients were submitted to the following:**

#### *(1)Full history analysis including:*

##### **a. Personal history:**

Age, occupation, special habits and important risk factors for I.H.D as cigarette smoking hypertension, D.M.or dyslipidaemia.

##### **b. Present history:**

Presence of chest pain: onset, course, duration, site, typical or atypical.

##### **c. Past history:**

Of ischaemic events, myocardial infarction, transient ischaemic attacks (TIAS), stroke, claudicating pain or previous lower limb vascular surgery.

d. Family history:

Of coronary heart disease or peripheral arterial disease.

*(2)Clinical examination:*

All patients were subjected to full clinical examination with special emphasis on:

1-Pulse examination for abnormal rhythm, palpation of peripheral pulses namely posterior tibial and dorsalis pedis.

2-Blood pressure measurement.

3-The lower extremities were also examined for color changes, trophic changes, ulcers, gangrene and temperature changes.

4- Cardiac examination: Full cardiac examination with special emphasis on auscultation of additional sounds as S3, S4 and abnormal murmurs.

*(3)Laboratory investigations:*

-Fasting and post prandial blood sugar.

-Lipid profile tests (total cholesterol, LDL-C, HDL-C and triglycerides).

-Serum cardiac enzymes, CPK, CKMB, LDH, SGOT on admission, 12 hours and daily.

*(4)Electrocardiogram (ECG):*

In all patients a resting standard 12 lead surface electrocardiogram was done to detect:

- 1-The presence of left ventricular hypertrophy or strain.
- 2-The presence of ischemic heart disease: either by presence of pathological Q in topographical leads (chest leads or inferior limb leads) or by symmetrical T wave inversion or by the presence of ST segment depression in either chest or limb leads.
- 3-The presence of arrhythmias; either atrial fibrillation, premature beats (atrial, ventricular) or bundle branch block (left or right).

*(5)Resting ankle –arm index:*

Calculation using Doppler probe as follows:

- Measurement of systolic blood pressure in the (Rt.BR and Lt.BR), (Rt.PTandLt.PT) and (Rt.DP and Lt.DP) arteries; while patient was in the supine position and after at least 5 minutes of rest.
- A hand held Doppler probe (Model 811.B, Frequency 9.5MHz) and standard blood pressure cuff connected to a random zero manometer was adopted to detect the arterial flow.
- The cuff was inflated to 10 mmHg above systolic pressure and deflated as 2mmHg/s.  
The first reappearance of the pulse was taken as the systolic pressure.
- The pressure was obtained in the following order: right BR, right DP, and right PT, left DP, left PT and then left BR arteries.