The Importance of C-Reactive Protein and Traditional Risk Factors in Predicting Peripheral Vascular Disease in Type 2 Diabetic Patients

Thesis
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ABSTRACT

Type 2 diabetes mellitus (DM) is associated with an increased risk of peripheral vascular disease (PVD), but within the diabetic population the relationship between various risk factors of atherosclerosis and PVD has not been clearly defined. Conventional and genetic risk factors have been reported to play a role in the pathogenesis of vascular disease, but do not explain the lower burden of cardiac and PVD. So, the relationship of lower extremity arterial disease to the different risk factors for atherosclerosis in type 2 diabetes mellitus is a matter of continuing investigation. The inflammatory marker C-reactive protein (CRP) predicts risk of myocardial infarction and thromboembolic stroke, whether increased levels of CRP are associated with the development of symptomatic PVD is unknown.

We studied 60 cases all were subjected to clinical examination and laboratory work-up in the form of C-reactive protein and lipid profile (total cholesterol, triglycerides, high density and low density lipoproteins). Statistical analysis was done to demonstrate any relation between diabetic macro-vascular complications and those clinical and laboratory parameters.

CRP was higher in diabetic patients with vascular complications when compared to those without vascular complications. Also the lipid profile is statistically higher in the patients with diabetic macro-vascular complications compared to those without.

Key words

-C-reactive protein & atherosclerosis

-Inflammation & diabetes

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أطروحة

توطئة للحصول على درجة الماجستير في أمراض الباطنة العامة

مقدمة من
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INTRODUCTION

Type 2 diabetes mellitus (DM) is associated with an increased risk of peripheral vascular disease (PVD), but within the diabetic population the relationship between various risk factors of atherosclerosis and PVD has not been clearly defined ***(O'Neal et al., 1998)***. Conventional and genetic risk factors have been reported to play a role in the pathogenesis of vascular disease, but do not explain the lower burden of cardiac and PVD ***(Thomas et al., 2003).*** So, the relationship of lower extremity arterial disease to the different risk factors for atherosclerosis in non-insulin-dependent (Type 2) diabetes mellitus (NIDDM) is a matter of continuing investigation as PVD is more frequently present in patients with non-insulin-dependant (Type 2) diabetes mellitus than patients with insulin-dependant (Type 1) diabetes (IDDM) due to the fact that persons with IDDM tend to die at an earlier age than patients with NIDDM ***(Katsilambros et al., 1996).***

The different inflammatory markers and traditional risk factors are important in predicting PVD in such patients also atherosclerosis which is the leading cause of death among the diabetic patients ***(Yu et al., 2004)***. The inflammatory marker C-reactive protein (CRP), a marker for systemic inflammation, predicts risk of myocardial infarction and thromboembolic stroke, whether increased levels of CRP are associated with the development of symptomatic PVD is unknown ***(Ridker et al., 1998)***.

So, it is important to put in mind that patients with PVD especially diabetic ones require medical management to prevent further coronary and cerebral vascular events and this require good knowledgement and

control of the traditional risk factors such as smoking, obesity, hypertension and hyperlipidaemia with early detection of PVD ***(Norman et al., 2004)***.

AIM OF WORK

The aim of our study is to compare the importance of the inflammatory marker CRP and traditional risk factors in predicting PVD in patients with type 2 diabetes mellitus using the ankle-brachial pressure index as the main tool to differentiate diabetic patients with PVD and those without.