Letter to the Editor

Current Status in Achievement of Glycaemic, Lipid and Blood Pressure Goals in Type 2 Diabetic Patients with Coronary Artery Disease

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It is well known that people with diabetes have a substantially increased risk for coronary artery disease (CAD), which is the leading cause of death in this population. The importance of good glycaemic, lipid and blood pressure (BP) control for primary and secondary prevention of cardiovascular disease has also been documented.[1] Clinical guidelines recommend that haemoglobin (Hb) A1c should be <7%, BP <130/80 mmHg and low-density lipoprotein cholesterol (LDL-C) <100 (optionally <70) mg/dl in all diabetic patients, with or without CAD.[2] In Greece, diabetes and thus CAD are common,[3-6] but little is known about the quality of care in those patients. Thus, we aimed to asses the level of attainment of the above treatment goals in diabetic patients with CAD in comparison with those without CAD.

Medical records of diabetic patients attending 5 primary and secondary health care centres were reviewed. We excluded from the study records with missing data for any of the parameters of interest. The study population consisted of randomly selected patients with type 2 diabetes seen between January 2007 and December 2008. A total of 990 subjects (498 women and 492 men), aged 33-91 (mean 66 ± 9) years, were included. Of these, 216 (22%) had a previous diagnosis of CAD and 774 (78%) had not. The prevalence rates of myocardial infarction, coronary artery bypass graft surgery and percutaneous coronary intervention were 120 (12.1%), 51 (5.2%) and 54 (5.5%), respectively. As expected, patients with CAD were older (69 ± 9 vs. 65 ± 9.5 years, p<0.0001) and had a greater duration of diabetes than those without CAD (12 ± 8 vs. 9 ± 7 years, p<0.0001). The respective percentages of current smokers were 18% vs. 25%, p=0.026. Moreover, patients with CAD used more frequently insulins (34% vs. 19%, p<0.0001), statins (76% vs. 56%, p<0.0001), angiotensin converting enzyme inhibitors (44% vs. 28%, p<0.0001), diuretics (59% vs. 46%, p<0.0001), b-blockers (58% vs. 17%, p<0.0001) and Ca antagonists (40% vs. 28%, p<0.0001).

In the total sample, the mean value of HbA1c was 7.1 ± 1.2%. Glycaemic control was optimal (HbA1c <7%) in 51%, fair (HbA1c=7-7.9%) in 32% and poor (HbA1c ≥8%) in 17% of diabetic patients. The mean value of systolic BP was 136 ± 15 mmHg and diastolic BP 79 ± 9 mmHg; the respective therapeutic goal (<130/80 mmHg) was achieved by 26% of the study population. The mean value of LDL-C was 112 ± 35 mg/dl; 40% of patients had LDL-C <100 mg/dl.

As shown in Figure 1, the proportion of

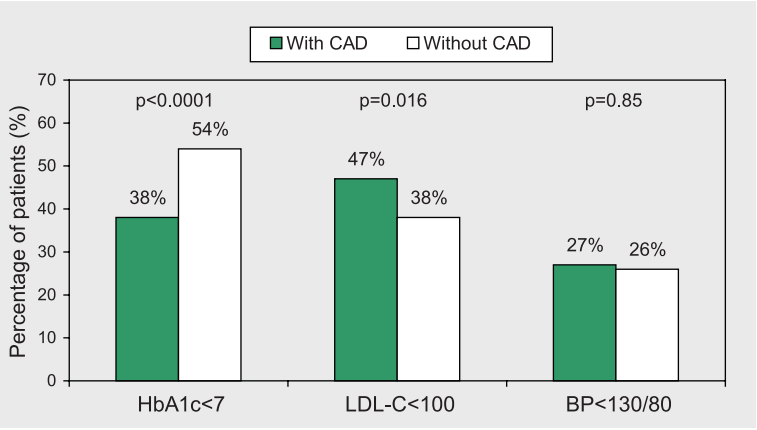

Figure 1. Treatment goal attainment rates in diabetic patients with and without coronary artery disease (CAD). BP – blood pressure; HbA1c – haemoglobin A1c; LDL-C – low-density lipoprotein cholesterol.

patients who achieved the goal for HbA1c was significantly lower in those with CAD as compared with those without CAD (38% vs. 54%). The reverse was true of the goal for LDL-C (47% vs. 38%); applying the optional goal (<70 mg/dl), the respective proportions were 18% vs. 9% (p<0.0001). As regards the goal for BP, the attainment rates were similar in both groups (27% vs. 26%). Only 1 in 21 diabetic patients with CAD and 1 in 14 of those without CAD achieved all 3 goals.

Our study indicates that glycaemic, lipid and especially BP control is suboptimal in diabetic patients, including those with established CAD. The finding that the level of glycaemic control was worse in patients with CAD than in those without largely reflects the differences in the duration of diabetes, which is associated with the deterioration of beta-cell function and insulin insufficiency.[7] The opposite pattern found with respect to lipid control reflects differences in the use of statins.

In contrast with our finding regarding glycaemic control, some studies from other countries showed that diabetic patients with CAD were more likely to achieve the HbA1c as well as the LDL-C goal in comparison with non-CAD counterparts.[8] Taking into account this evidence, it seems that the poorer glycaemic control in our diabetic patients with CAD than in those without CAD could not be attributed entirely to the greater duration of diabetes; probably there are other unclear reasons that need further investigation.

It is well known that the comprehensive care of diabetic patients is a complex task and needs cooperation between different medical specialists. However, in the circumstances of our fragmented delivered care, diabetic patients who are free of CAD are usually under the care of diabetologists or primary care physicians, who tend to focus on glycaemic control while, once CAD is diagnosed, attention to the cardiological problem becomes dominant, and the main responsibility in care shifts to cardiologists, who are more familiar with lipid control. This may in part explain why our study demonstrated better lipid control but worse glycaemic control in diabetic patients with CAD as compared with those without CAD.

With regard to BP control, although there was a very high proportion of patients using at least three BP-lowering drugs among those with CAD (50% vs. 26%, p<0.0001), the level of control was still poor. This, in combination with the finding that only a small number of patients achieved all 3 goals, suggests that other issues beyond pharmacological therapy should be addressed. Consequently, an integrated team approach and more efficient interventions focusing on lifestyle changes are needed in order to improve care for diabetic patients.

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