Cardiovascular risk management in diabetes in primary care

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Abstract

This communication describes simple targets and interventions, aimed at cardiovascular risk reduction in diabetes mellitus, which are feasible at primary care level. It summarizes therapeutic goals and strategies for management of high blood pressure, dyslipidaemia, and anti-platelet therapy.

Keywords: Hypertension, dyslipidaemia, anti-platelet therapy, tobacco, lifestyle modification.

Introduction

Cardiovascular disease (CVD) is a term which includes coronary artery disease (CAD), cerebro-vascular disease (CVD) and peripheral arterial disease (PAD). CVD is common in both primary and specialized care practices. Primary care physicians have increasingly important roles in providing support to people with diabetes, who are at risk of CVD, hypertension, or dyslipidaemia; and may be receiving treatment for these conditions.

Screening For CVD

Blood pressure should be measured whenever an adult with diabetes visits the health care provider, If found to be elevated, it should be confirmed on a separate occasion. Fasting lipid profile should be measured at least annually in these patients, but can be done every 2 years in those at low risk of dyslipidaemia. Older adults should undergo a similar frequency of screening, provided expected life expectancy is similar. Routine screening for CAD is not recommended, however. Screening for PAD in asymptomatic persons is also not indicated.[1]

Children and adolescents with diabetes should have their blood pressure measured at each routine visit, using appropriate cuff sizes. Screening for lipid levels should begin at puberty ($\geq$ 10 years) in children diagnosed with diabetes prior to this age, and soon after diagnosis, once euglycaemia is achieved, in those who develop diabetes at or after puberty. Screening should be done as soon as glycaemic control is attended in children aged > 2 years of age, if a family history of hypercholesterolaemia or a premature cardiovascular event is present, or if family history is unknown.

Management Goals

Persons with diabetes and hypertension should aim to achieve blood pressure goals of < 140/80 mmHg. More stringent systolic targets (<130 mm) may be aimed, if possible. In pregnancy, complicated by diabetes and chronic hypertension, more stringent goals of 110-129/65-79 mmHg should be targeted.

LDL cholesterol goals are <100 mg% in individuals without overt CVD, and <70mg% in those with overt CVD.[1]

Management Strategies

Lifestyle modification, (Table) must be instituted in all hypertensive patients. The drug of choice is either an angiotensin converting enzyme inhibitor (ACEi) or an angiotensin receptor blocker (ARB): either can be substituted for the other. More than one drug is usually needed to achieve normal blood pressure; and at least one of these should be administered at bed time. Renal function must be monitored regularly.[1]

Statin therapy is indicated in all patients with diabetes aged >40 years; in those with overt CVD; and younger patients with LDL cholesterol >100mg% or presence of multiple cardiovascular risk factors.

Aspirin is indicated, in low doses (75-162mg/day), in men >50 years and women >60years with at least one additional major risk factors. In younger persons with multiple risk factors, clinical judgment should be used. In person with diabetes and overt CVD, aspirin must be used as a secondary prevention strategy, unless the person is allergic to the molecule. Clopidogrel (75mg/day) can be

Table: Lifestyle Modification.

◆ Weight loss
◆ Reduction in sodium intake
◆ Increase in potassium intake
◆ Moderation of alcohol intake
◆ Increase in physical activity
◆ Reduction in saturated fat, trans fat, cholesterol intake
◆ Increase in n-3 fatty acids, viscous fiber and plant stanols/sterols
◆ Smoking cessation

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used as part of dual antiplatelet therapy, for one year after an acute coronary syndrome, or as monotherapy in persons who do not tolerate aspirin.

A triple drug combination of ACEi, aspirin and statin is indicated in persons with known CVD. Beta blockers should be added for at least 2 years after an acute myocardial infarction. ACEi and ARB are contraindicated in pregnancy lactation, and women planning pregnancy.

Glycaemic Management in Cardiovascular Disease

The presence of CVD does not impact the choice of glucose- lowering therapy. One should, however, avoid sulfonylureas, which are associated with a greater risk of hypoglycaemia. Hypoglycaemia is known to be pro-arrhythmogenic, pro-ischaemic, and an ischaemia mimetic.[2] Metformin is safe in most cardiac patients, but should be avoided during ACS.[3]

Gliptins and thiazolidinediones should be avoided in patients with symptomatic congestive heart failure (class III, IV).[4] Primary care physicians should remain alert for symptoms and signs of heart failure when these drugs are initiated or intensified.[1] Glucagon like peptide-1 receptor agonists (GLP1RAs) and sodium glucose transporter-2 inhibitors (SGLT2i) have favourable effects in multiple components of the metabolic syndrome, and may be preferred in persons with concomitant cardiovascular disease.

Conclusion

Active participation of primary care physicians in cardiovascular risk management will help improve the health of people with diabetes in their care.

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