BRIEF COMMUNICATION

Heart Smart Diabetes Care

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ABSTRACT

The world is growing smarter day by day, and so is health care. In spite of innumerable inventions and tech-tools, however, we struggle to contain chronic illnesses like diabetes and heart disease. We need to work together and design a rational, scientific and socially sustainable Heart Smart diabetes care ecosystem, with Heart Smart management strategies, to ensure happiness and harmony in persons who live with diabetes.

Keywords: Common soil hypothesis, cardio diabetes pharmacovigilance, Heart Smart diabetes care, ecosystem, rational polypharmacy, total health

Diabetes and cardiovascular disease are two major public health challenges, which are closely linked with each other. Both syndromes have similar risk factors and etiopathological characteristics. Both may present together, and influence each other's clinical features, natural trajectory and choice of treatment. This is why cardiovigilance is an integral part of diabetes care.[1] Modern guidance, in fact, uses cardiovascular status as a primary tool in decision making for glucose-lowering therapy.[2]

Ongoing research and development have led to a greater understanding of the common soil hypothesis, and pathophysiology of both diabetes and cardiovascular disease. Coupled with the greater availability of diagnostics, drugs and devices, this calls for a Heart Smart approach to diabetes care. This review discusses the various aspects of Heart Smart management, in persons living with diabetes.

DIAGNOSTICS

Regular screening for cardiovascular risk factors and surrogate markers is embedded in diabetes care. International recommendations list the questioning and tests that should be carried out at diagnosis of diabetes, and during follow-up. These include lifestyle modification and cessation of tobacco use, targeted control of blood pressure and lipids, along with selective use of antiplatelet drugs.[3]

Recently, N-terminal pro-B-type natriuretic peptide (NT-proBNP) has been approved as a tool for risk stratification in persons with type 2 diabetes.[4] High levels of NT-proBNP (>125 pg/mL), in asymptomatic persons with type 2 diabetes, suggest a higher risk of heart failure in future. Prescribing annual NT-proBNP and instituting appropriate therapy is an effective, Heart Smart way of preventing hospitalization for heart failure.

DRUGS FOR GLYCEMIC MANAGEMENT

Multiple drugs, belonging to varied drug classes, are available for the management of diabetes. Heart Smart glucose control can be achieved by using glucagon-like peptide-1 receptor agonists (GLP-1RA) and/or sodium-glucose co-transporter 2 inhibitors (SGLT2i) as first-line therapy, along with metformin. Drugs which are proven to have cardiovascular benefit, such as dulaglutide, liraglutide, semaglutide, empagliflozin and dapagliflozin, should be preferred.[2]

DUE DILIGENCE

Cardiovascular health should be monitored while managing diabetes.[1] Tachycardia with GLP-1RA edema with pioglitazone, and postural hypotension with SGLT2i should be looked for, as a part of Heart Smart cardiovigilance. One should also be aware of the overlap between symptoms of hypoglycemia and angina equivalents.

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DYNAMIC CARDIOPROTECTION

The management of diabetes is not limited to glycemic control alone. It includes comprehensive cardiovascular protection, encompassing weight control, lipid-lowering and antiplatelet therapy as required.[3] The World Health Organization (WHO) has set a target of statin coverage for at least 60% of all persons aged >40 years, by the year 2030.[5] Equal, if not more, emphasis should be laid on blood pressure-lowering, achievement of lipid targets and cessation of smoking, to attain optimal cardiovascular protection.

DRUG-DRUG INTERACTIONS

Person living with diabetes are often exposed to polypharmacy, and the inherent dangers of drug-drug interactions. Many drugs used in diabetes praxis may lead to QT prolongation and precipitate arrhythmias. A Heart Smart approach to diabetes care includes 'electrovigilance',[6] so as to minimize the risk of cardiac condition defects and pharmacovigilance, so as to avoid drug-drug interactions.

DUAL RESPONSIBILITY: DIRECT COMMUNICATION

Persons living with diabetes, especially those with cardiovascular disease, often seek treatment from multiple health care providers. There is always a chance of miscommunication and improper prescription, which can be avoided by direct communication between various specialists. A Heart Smart diabetes care program should ensure that specialists' prescriptions, if any, are collated into one complete document and audited to remove dual prescriptions (of antiplatelet drugs, lipid-lowering agents and SGLT2i, for example). Polypharmacy should be rationally prescribed, justified by evidence, backed by pharmacovigilance and based on scientific principles. Referral to superspecialists should be done in a timely and efficient manner whenever needed.

DEDICATION AND PURPOSE

The aim of diabetes management is to ensure a state of sustained comprehensive health, including cardiovascular health. This can be accomplished by creating a Heart Smart diabetes care ecosystem.[7] Such an ecosystem should promote public awareness about the importance of heart-friendly behaviors, and encourage advocacy and action by creating public health programs geared towards Heart Smart diabetes care. The Heart smart ecosystem should welcome and include mental health experts, nutritionists, physiotherapists, yoga experts, sports enthusiasts, gym and sports coaches, along with creative arts experts, apart from clinical specialists.

Diabetes care professionals should be energetic and enthusiastic enough to incorporate nonpharmacological and pharmacological interventions, targeted at cardiovascular health optimization, in their practice. Once these aspects are taken care of, diabetes care will certainly become Heart Smart.

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