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Pharmacotherapy of Type 2 Diabetes: Getting The Basics Right to Improve Outcomes

Dr Mandeep Bajaj, USA

- Choose an agent after considering the condition of the patient and any underlined comorbidities that he may have. Consider the available data with all the drugs including a glucagon-like peptide 1 (GLP-1) receptor agonist, a diapeptidyl peptidase-4 (DPP-4) inhibitor, an SGLT2 (sodium-glucose co-transporter 2) inhibitor, pioglitazone and sulfonylurea.
- For instance – In a patient with heart failure, SGLT2 inhibitors are recommended; In a patient with nonalcoholic hepatitis, a GLP-1 receptor agonist or pioglitazone may be added.
- Base your clinical judgment on the overall condition of the patient (instead of just glycemic control), and underlying comorbidities, consider the options available and then reach a conclusion.

Obstructive Sleep Apnea and Diabetes – The Link

Dr Anil Bhoraskar, Mumbai

- Obstructive sleep apnea (OSA): Repeated partial or complete obstruction of the upper airway during sleep. The complications linked with OSA are metabolic, cardiovascular, behavioral and others such as excessive daytime sleepiness, headache and fatigue-related accidents.
- A number of studies have shown that OSA is a risk factor for type 2 diabetes (T2D) independent of obesity and other risk factors.
- Interestingly, both OSA and T2DM are associated with similar comorbidities such as hypertension, cardiovascular disease (CVD), dyslipidemia and chronic kidney disease.
- Several cross-sectional studies have demonstrated the link between OSA and poor glycemic measures. Continuous positive airway pressure (CPAP) is the gold standard treatment for OSA. Along with CPAP, lifestyle modification, sleep hygiene and weight loss should be advised in all patients with T2D with OSA.
- Some other treatment options for OSA include dental appliances, surgeries in a select group of patients, and conservative measures such as alcohol cessation, smoking cessation and mild nasal decongestants.
- CPAP reduces the risk of incident T2D. Treatment with CPAP improves HbA1c levels, fasting plasma insulin and insulin resistance. In T2DM, OSA treatment with CPAP has been shown to reduce the mean arterial pressure, systolic blood pressure (BP) and diastolic BP.
- CPAP has been shown to delay or prevent the occurrence of CVD in T2DM patients.
- Retinopathy, nephropathy and neuropathy are probably delayed by treatment with CPAP.

Hepatopancreatic Fat-Fetuin-A Based Axis for The Pathogenesis of Diabetes and its Reversal

Dr Anoop Misra, New Delhi

- A number of studies have demonstrated a link between pancreatic fat and impaired glucose metabolism, as well as between pancreatic fat and T2DM. In general, pancreatic volume decreases with age and in diabetes, while pancreatic fat increases with both.
- Ethnic differences in pancreatic volume have been reported, while research in India is negligible.
- Fetuin-A is a key metabolic regulator causing effects on the pancreas and multiple other tissues, and responsible for insulin resistance, hyperglycemia and (with palmitate) β-cell apoptosis.
- Different approaches, such as a hypocaloric diet, exercise, bariatric surgery and pharmacological interventions, can reduce pancreatic fat content.
- A decrease in pancreatic and hepatic fat and a decrease in fetuin-A (insulin resistance/inflammation) could lead to reversal of diabetes.

Promises and Pitfalls of Remission of Diabetes

Dr Sujoy Majumdar, Kolkata

- The term used to describe a sustained metabolic improvement in T2DM to nearly normal levels

should be remission of diabetes and not a reversal of diabetes mellitus.

- Remission should be defined as a return of HbA1c to <6.5% (<48 mmol/mol) that occurs spontaneously or following an intervention and that persists for at least 3 months in the absence of usual glucose-lowering pharmacotherapy.
- When HbA1c is determined to be an unreliable marker of chronic glycemic control, fasting plasma glucose (FPG) <126 mg/dL or estimated A1c <6.5% calculated from continuous glucose monitoring (CGM) values can be used as alternate criteria.
- Testing of HbA1c to document a remission should be performed just prior to an intervention and no sooner than 3 months after initiation of the intervention and withdrawal of any glucose-lowering pharmacotherapy.
- Subsequent testing to determine long-term maintenance of remission should be done at least yearly thereafter, together with the testing routinely recommended for potential complications of diabetes. Reversal of diabetes remains a distant goal to date.

Effects of Lipid-Lowering Drugs and Types of Statins on SARS-COV-2 Infection and Severity in Diabetes

Dr Michel P Hermans, UK

- Since the beginning of the coronavirus disease 2019 (COVID-19) pandemic, diabetes is considered a risk factor for severe COVID-19. There is no evidence that having diabetes increases the risk of contracting COVID-19.
- The two major risk factors for T2DM onset and severe COVID-19 are the same, i.e., age and obesity.
- Factors predisposing to infection and/or severe disease are subject to generalizations that do not take into account the type of diabetes.
- A study was conducted to document the phenotype before infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and with severe COVID-19 – In a T2DM-T1DM cohort; In T2DM and T1DM subgroups.
- The conclusions of the study were: Infected (T2DM + T1DM) patients less often on statins; Infected T2DM less often on statins (–10%) – [More often on atorvastatin (+39%), Less often on rosuvastatin (–24%)]; No difference in statins use between infected and noninfected T1DM – Nonsignificant higher use of atorvastatin among infected T1DM; Similar % of severe COVID-19 on statins compared to nonsevere – Same SED of statin in severe vs. nonsevere, Nondifferent % of HIS in severe vs. nonsevere; Severe COVID-19 >2 times more R/atorvastatin (+238%); Nonsevere forms >4 times more R/rosuvastatin (+434%); Ezetimibe ± statins much lower (–57%) in severe COVID-19, as was the combination of [any statin + ezetimibe] (–69%).

Multidisciplinary Management of Diabetic Foot Ulcers: Can We Do It Better?

Dr ZG Abbas, Tanzania

- There is an urgent need to reassess care pathways pertaining to diabetic foot ulcer (DFU) management in our health systems, as we sense the overall gravity of this diagnosis is underestimated.
- The concomitant lack of prevention, insufficient early detection and often inadequate management of ulcers often lead to eventually high morbidity and mortality.
- The multidisciplinary diabetic foot clinic has proven to be a unique forum to provide urgent treatment of infection and ischemia with rapid access to laboratory, radiological and inpatient facilities.
- The multidisciplinary team (MDT) especially those able to address glycemic control, local wound management, vascular disease and infection are associated with a reduction in the risk of major amputation for patients with severe diabetic foot.
- One-step, MDT-led diabetic foot clinic benefits patients and improves outcomes related to the avoidance of hospital admissions, limb salvage procedures and minor amputations, although, we recognize that time and education are needed to see its full effects.

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