MODERN APPROACHES FOR MANAGEMENT OF DIABETES MELLITUS

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**Introduction:**Diabetes mellitus (DM) is becoming something of a pandemic and despite the recent surge in new drugs to treat and prevent the condition, its prevalence continues to soar. The 10 countries with the largest populations of diabetic patients are China, India, the U.S., Brazil, Russia, Mexico, Indonesia, Germany, Egypt and Japan. The main goal of diabetes management is to restore carbohydrate metabolism to a normal state. To establish this goal, individuals with total deficiency of insulin (type 1 DM) require insulin replacement therapy, which is given through injections or an insulin pump. Meanwhile, insulin resistance that is typical for type 2 DM can be partially corrected by dietary modifications and exercise. Other goals mainly target to prevent or treat complications that can result from the disease itself and from its treatment.

**Modern approaches** to DM primarily rely upon a patient-centered cooperation delivered by a multidisciplinary team. Glycemic targets are established according to individual circumstances, accounting factors such as weight, hypoglycemia risk and patient preference. Stepwise treatment guidelines devised by international diabetes organizations standardize and rationalize management. Also, structured education programs and psychological support are now well-established as essential for improving patient motivation and self-empowerment.

**Diet management** mainly aims to control and raise awareness of the types of nutrients entering the digestive system, and hence indirectly allows a significant control over changes in glycemia levels. Blood glucose monitoring is especially important since some symptoms of DM are not easy for the patient to notice without actual measurement. Studies have demonstrated the differential effects of different factors on short-term and long-term outcomes, yet another milestone in the history of diabetes. The introduction of HbA1C revolutionized the unwanted, repeated and regular blood sugar estimations characterizing follow-up visits. It brought the management of blood glucose more acceptability and compliance.

There has also been advances in the development and use of insulin analogs, including introduction of easy and handy insulin pens, and insulin pump therapy – subcutaneous insulin infusion. Other approaches include exercise and other lifestyle changes which impact the glucose cycle.

**Conclusion.** In summary, over the 1000’s of years, since the first evidence of this chronic, heterogeneous endocrine disorder of carbohydrates, fat and protein metabolisms, the historical developments of DM understanding and approaches to its management have demonstrated emergence and evolution over a long period of time. As the 21st century grinds through its ‘adolescent period’ and we approach the centenary of insulin discovery, we do hope to drive the history forward by cruising on the roads of finding a cure to diabetes. Let’s hope to thefuture, in which lies the outcomes and availability of cell-based therapy and immunotherapy alongside the improvements in oral hypoglycemic agents.