Message

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The potential advantages of the long-acting insulin analogues are reviewed in this special supplement of Journal of Pakistan Medical Association (JPMA).

As shown in many clinical studies of basal insulin vs. regular insulin there are no improvement in HbA1c levels; however, the ability to achieve improvement of HbA1c is often limited by hypoglycemia. Thus, in real-world settings, improvements in fact do occur. The findings from the study "Cost-effectiveness of insulin analogues for diabetes mellitus."by Chris G. Cameron MSc, Heather A. Bennett BPharm PhD (CMAJ 2009;180(4):400-7) suggest that treatment with insulin analogues is associated with a reduction in diabetes-related complications i.e. higher number of quality-adjusted life-years relative to conventional insulins.

For patients with type 2 diabetes that is inadequately controlled by metformin, a randomized, open-label trial suggests that basal insulin (insulin glargine) is a better alternative than the dipeptidyl peptidase-4 inhibitor. The research was presented at the ADA 2012 conference and simultaneously published in the Lancet. The study was short in duration (24 weeks), acknowledged Pablo Aschner, MD, from the Javeriana University School of Medicine, Bogota, Colombia, during his presentation. "Long-term studies are needed to reaffirm our findings and gain a better understanding of the difference between the options," he said.

In the 2013 guidelines of American Association of Clinical Endocrinologist (AACE) basal insulin has been advocated as the early treatment if HbA1C is > 7.5%.It clearly shows that early initiation of basal insulin in the management of T2DM is beneficial and supported by international guidelines.

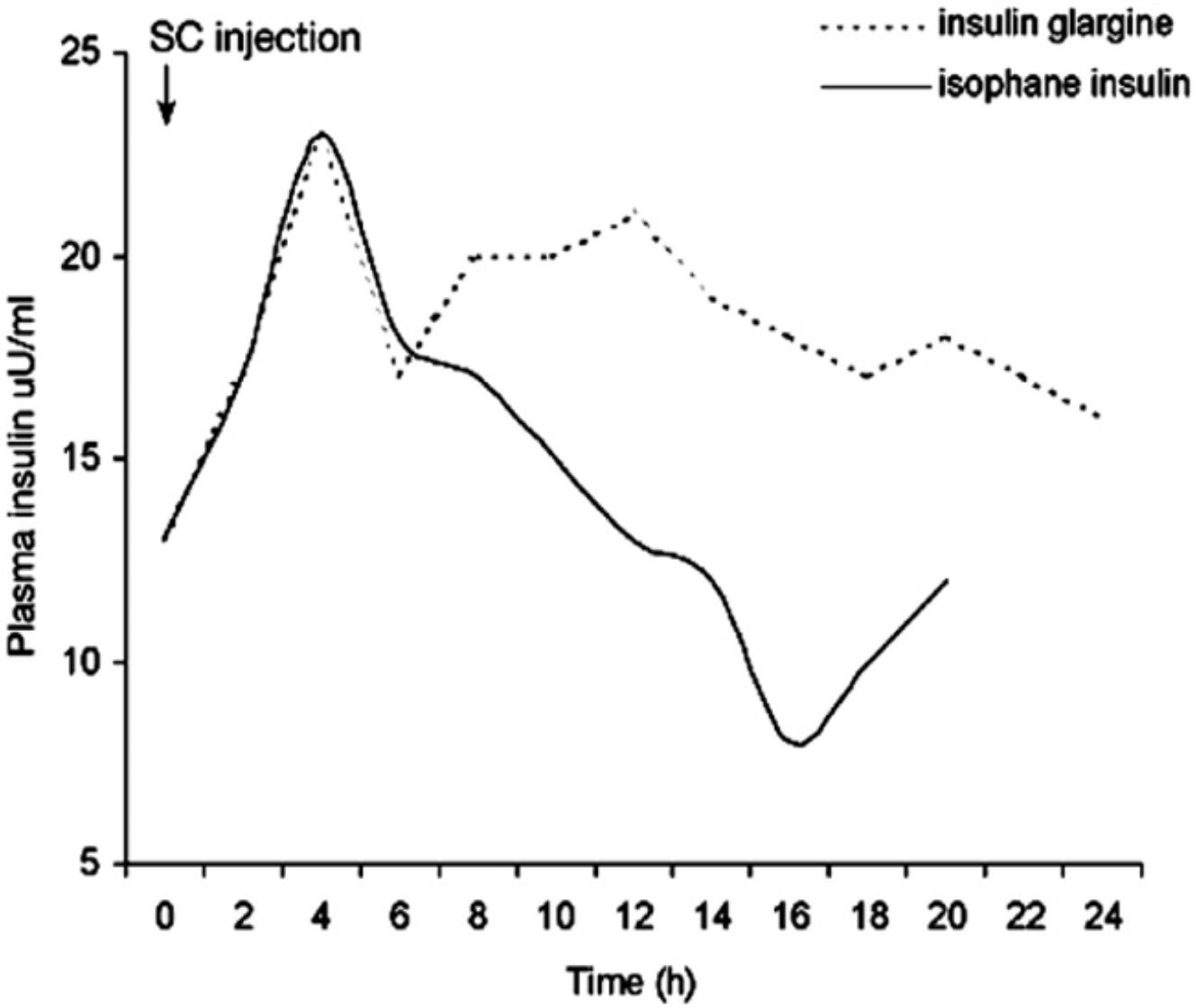

Figure: Plasma insulin concentrations after subcutaneous injection of insulin glargine and insulin isophane.

In summary, the advantages of insulin analogues have been amply demonstrated. However, the clinician must remain flexible and use the insulin that best matches the food preferences, nutrient absorption profile and schedule of each patient with diabetes. The development of insulin analogues has augmented our choice of insulin preparations and has provided the opportunity to improve glycemic control in people with diabetes.