Results: Normal saline was used for initial resuscitation in all cases; fluids were replaced as per CPG in 54.2% of cases; 83.3% appropriately managed initial potassium. Intravenous insulin infusion was used in 96% of patients with 69.2% started at the recommended rate. Insulin infusion continued until closure of the anion gap (AG) in 79.2% of cases. Average time to closure of the AG was 13.6 hours (range 3.0–28.0, SD 7.78), with a normal AG maintained after initial closure in 45.8% of cases. None of the cases assessed followed all CDA CPG recommendations for DKA management.
Conclusions: Current management of DKA in our institution does not meet CDA CPG. The development and implementation of a standardized best-practices-based DKA protocol is warranted to optimize patient safety and quality of care of this high-risk condition.

138

The Two-Week Fasting Glucose as a Predictor of Response to Once Weekly Dulaglutide 1.5 mg

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To assess whether laboratory fasting blood glucose (FBG) measured early in treatment with once weekly GLP-1 receptor agonist dulaglutide (DU) 1.5 mg predicts treatment response in type 2 diabetes mellitus (T2DM) patients.

Post hoc analyses were conducted separately for 2 phase 3 studies, AWARD-5 (combination with metformin) and AWARD-1 (combination with metformin and pioglitazone) in patients with T2DM assigned to once weekly DU 1.5 mg.

FBG values were categorized (low, intermediate and high) at baseline and week 2. Treatment response was assessed at week 12 (AWARD-5) or 13 (AWARD-1) and 26 (AWARD-5, AWARD-1) by a composite efficacy endpoint (CEE): A1C $<7.0\%$ or A1C reduction from baseline $>0.8\%$ (if $<8.0\%$); $>1.1\%$ (if $\geq 8.0\%$ and $<9.0\%$); or $>1.6\%$ (if $\geq 9.0\%$). Association between FBG categories and the CEE was analyzed.

In AWARD-5, mean baseline A1C for DU 1.5 mg (n=304) was 8.1%. At baseline, mean FBG was 9.8 mmol/L and 33% (n=99), 32% (n=97) and 36% (n=108) of patients had FBG in the low, intermediate and high tertiles, respectively. After 2 weeks of treatment, mean FBG was 7.2 mmol/L and 68% (n=208), 21% (n=64) and 11% (n=32) of patients had FBG in low, intermediate and high categories, respectively. At week 26, mean A1C was 6.9%. There was a strong association between FBG at week 2 and achieving the CEE at week 26 ($p<0.001$). Similar findings were seen using AWARD-1 data.

FBG values at week 2 may be an early and useful measurement for predicting response to once weekly DU 1.5 mg treatment in T2DM.

139

Efficacy of Once Weekly Dulaglutide Compared with Twice-Daily Exenatide in Patients with Type 2 Diabetes: A Post-Hoc Analysis to Determine the Influence of Baseline HbA1c

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Aim: To investigate the response to long- and short-acting glucagon-like peptide-1 receptor agonists based on baseline A1C levels. The AWARD-1 trial compared once weekly dulaglutide 1.5 mg and dulaglutide 0.75 mg to placebo and exenatide 10 μg bid in patients with T2DM on metformin and pioglitazone.
Methods: The changes from baseline in A1C and percentages of patients reaching A1C targets ($<7.0\%$, $\leq 6.5\%$) with dulaglutide 1.5 mg and dulaglutide 0.75 mg at 26 weeks were analyzed by baseline A1C ($<8.5\%$, $\geq 8.5\%$) and compared with placebo and exenatide. Results are presented (LS mean [SE]) for the change from baseline in A1C and percentages achieving glycemic targets, the $<8.5\%$ group followed by the $\geq 8.5\%$ group.
Results: The LS mean changes from baseline in A1C for dulaglutide 1.5 mg (−1.16 [0.07]%; −2.37 [0.10]%) were greater compared with placebo (0.17 [0.10]%; −0.76 [0.16]%] and exenatide (−0.64 [0.07]%; −1.86 [0.11]%) ($p<0.001$, all comparisons). For both baseline groups, significantly more dulaglutide 1.5 mg patients reached targets of $<7\%$ (92%, 47%) and $\leq 6.5\%$ (80%, 26%) compared with placebo ($<7\%$: 55%, 10%; $\leq 6.5\%$: 32%, 3%) and exenatide ($<7\%$: 65%, 21%; $\leq 6.5\%$: 50%, 9%) ($p<0.05$, all comparisons). Dulaglutide 0.75 mg also demonstrated significant changes for both baseline groups vs. placebo ($p<0.05$, both outcomes; all comparisons). Statistical significance was not achieved when comparing dulaglutide 0.75 mg with exenatide in the baseline A1C $\geq 8.5\%$ groups.
Conclusion: Regardless of baseline A1C, once weekly dulaglutide 1.5 mg and dulaglutide 0.75 mg showed a robust reduction in A1C in this population of patients with T2DM.

140

Is There a Link Between Oral Health and Diabetes?

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Since the US Surgeon General's report on oral health in the year 2000, there has been an increased interest in determining whether a link exists between oral health and overall health. Several systemic diseases appear to be correlated with periodontal disease, an inflammatory disease that affects the soft and hard structures that support the teeth, but the mechanisms are generally unknown. This presentation will evaluate the "association" and "reversibility" between diabetes and oral health, on the basis of an evaluation of the highest level of evidence (meta-analyses and systematic reviews) available up to March 2014. The high-level evidence indicates that patients with diabetes had significantly more severe markers for periodontal disease activity (e.g. poorer oral hygiene levels, more severe gingival disease and more severe periodontitis). The treatment of periodontitis and regular preventive measures including scaling is efficacious in improving glycemic control in patients with diabetes, lending further support to the concept that the association is reversible. An understanding of these correlations is important to allow dental and diabetes healthcare providers to inform their patients of increased risks and to counsel such patients to seek additional medical and dental assessment or intervention, as indicated.

141

Evaluation of Immunogenicity of LY2963016 Insulin Glargine Compared with Lantus Insulin Glargine in Patients with T1DM or T2DM

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Background: The immunogenicity of LY2963016 (LY IGlar) and of Lantus® (IGlar), insulin glargine products with identical amino acid sequences, were compared, as subtle differences in protein products manufactured using living cells may affect the immune response and clinical outcomes.
Methods: Anti-insulin glargine antibodies were measured in 52-week and 24-week studies in patients with T1DM (open label) and T2DM (double blind), respectively.
Results: Proportions (%) of patients with detectable antibodies at baseline (17.0% and 20.6% T1DM; 5.5% and 3.6% T2DM) and