



## **Presentation 242-OR / 242 Comparing Treatment Intensification Approaches in Patients with T2D Uncontrolled on Basal Insulin: Adding Glucagon-like Peptide-1 Receptor Agonists vs. Adding Rapid-Acting Insulin or Increasing Basal Insulin Dose**

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### **Abstract:**

Questions remain about treatment intensification (TI) approaches in T2D patients (pts) poorly controlled on basal insulin (BI), including dose adjusting of BI (DA), adding rapid-acting insulin (RAI), or adding glucagon-like peptide-1 receptor agonists (GLP-1).

Pts (identified from a national healthcare claims database [January 2005 to December 2014]) with T2D and poor glycemic control  $\geq 6$  months after initiation of BI treatment and intensifying with GLP-1, RAI, or DA ( $> 10\%$ ) within 6 months of index date (after  $\geq 6$ -months of BI:  $A1c \geq 8.0\%$  if age  $\geq 65$  years or there is evidence of a comorbid condition;  $A1c \geq 7\%$  otherwise), were compared with those not intensifying.  $A1c$  changes and risk of hypoglycemia from the date of TI to 12 months after TI were compared between cohorts. Pairwise comparisons were made for propensity score-matched pts (PSM ratio up to 3:1) intensifying with GLP-1 vs. RAI (312 GLP-1 pts vs. 799 RAI pts), and GLP-1 vs. DA (320 GLP-1 pts vs. 815 DA pts).

After PSM, baseline  $A1c$  was similar for all cohorts (9.27% for GLP-1 vs. 9.38% for RAI; 9.27% for GLP-1 vs. 9.22% for DA). During the 12-month post-TI period,  $A1c$  change was similar for GLP-1 vs. RAI ( $-0.84\%$  vs.  $-0.74\%$ ,  $P = 0.348$ ), but hypoglycemia was lower (5.8% vs. 10.6%,  $P = 0.012$ ).  $A1c$  changes for GLP-1 vs. DA were greater ( $-0.89\%$  vs.  $-0.48\%$ ,  $P < 0.001$ ) and hypoglycemia was lower (5.6% vs. 10.8%,  $P = 0.007$ ). Diabetes-related outpatient pharmacy costs were higher for GLP-1 vs. RAI and GLP-1 vs. DA (\$6,070 vs. \$4,742,  $P < 0.001$ ; \$6,082 vs. \$4,267,  $P < 0.001$ , respectively); diabetes-related annual healthcare costs were similar (\$10,915 vs. \$13,062,  $P = 0.096$ ; \$10,788 vs. \$12,594,  $P = 0.462$ , respectively).

Adding GLP-1 instead of adding RAI or DA may be a better TI strategy to achieve similar or better glycemic control with lower hypoglycemia in poorly controlled T2D, with total diabetes-related annual healthcare costs being similar for all approaches.