Oral antiglycemics modestly lower hemoglobin A1C levels

By Victoria Stern

NEW YORK (Reuters Health) – Oral antiglycemic agents have a modest effect on reducing glycated hemoglobin levels in patients with diabetes, suggests a new systematic review published online May 18 in Diabetes Care.

According to the meta-analysis, oral antidiabetic agents (OADs) typically lowered glycated hemoglobin (A1C) levels by 0.5 to 1.25%.

“Overall, our results agreed with other studies,” said lead investigator Diana Sherifali, an assistant professor in the School of Nursing at McMaster University in Ontario. “However, our study also demonstrated that higher baseline A1C is associated with greater decreases in A1C after OAD initiation.”

Previous reviews examining the effect of OADs on A1C suggest that OADs reduce A1C levels by 0.5 to 1.5%; however, these reviews used varying designs and methodologic approaches.

Therefore, the research team searched Medline, Embase, and the Cochrane Central Register of Controlled Trials from January 1980 through May 2008 as well as reference lists from systematic reviews, meta-analyses and clinical practice guidelines using uniform methodologic criteria.

Ultimately they included 61 trials involving 26,367 study participants, with 15,760 randomized to a drug(s) and 10,607 randomized to placebo. Study subjects had a median age of 57 (range, 52 to 69 years), and 57% were men.

OAD classes—alpha-glucosidase inhibitors, biguandies, meglitinides and DDP-4 inhibitors—reduced AIC levels from 0.5 to 1.0% while maximum doses of sulfonylureas and thiazolidinediones had the greatest effect on AIC, reducing levels by approximately 1.0 to 1.25%. Patients saw the greatest benefit of OAD therapy within the first 3 to 6 months.

The researchers also found that after adjusting for drug class, dose, diabetes duration and baseline A1C, a 1% higher baseline A1C level predicted a 0.5% greater reduction in A1C levels after 6 months of OAD therapy.

“Clinical practice guidelines speak to using multiple OADs agents to resolve the issue of hyperglycemia,” Dr. Sherifali told Reuters Health.

The authors noted that most studies included participants with relatively newly diagnosed diabetes (on average, 5.2 years), which means the findings may not be relevant to patients who have had diabetes or diabetes-related complications for longer. Future research should examine the effectiveness of single and combination OAD therapy over time as well as the long-term adverse effects, the researchers suggested.

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SOURCE: http://care.diabetesjournals.org/content/early/2010/05/11/dc09-1727.abstract

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