The GeriJournal

Volume 9, Number 7
July 2014
A publication of GeriatRx Pharmacy

Beware of Hypoglycemia

The mantra "better sweet than sour" is making a comeback in LTC diabetes treatment. While hyperglycemia in Type II diabetics is quite undesirable, hypoglycemia is of even greater concern. In addition to falls, confusion and behavioural problems, low blood sugar can trigger cardiac arrhythmias and sudden cardiac death. Myocardial infarction is also possible.

A host of large trials (*ADVANCE, ACCORD AND VADT)* have shown that intensive treatment (A_1C < 7%) carries no mortality benefit over a five year period. *UKPDS*, a longer term study of new diabetics conducted in the UK was also telling. It took ten years of treatment with metformin to reduce mortality in overweight patients. Sulfonylureas (e.g. Diamicron®, glyburide) and insulin showed a mortality benefit after 15 years.

Finally, *The Journal of the American Geriatric Society* published an article in 2012 looking at elderly diabetics in the community. Remarkably, those with an A_1C of 8 – 8.9% had less functional decline and fewer deaths than those with A_1Cs < 7%. Those in the > 9% group did almost as well as the 8 – 8.9% patients. The same study also showed that hip fracture risk doubled or tripled in the two lowest A_1C groups.

The culprit in each of these studies seems to be hypoglycemia, which is often unrecognized, in spite of frequent glucose monitoring. When treating the frail elderly, our A_1C goal should be 8.5% or less. Fasting sugar should be from 5 – 12, depending on the level of frailty (*Canadian Diabetes Guidelines; 2013*). Restrictive diabetic diets are discouraged in most cases. Medications that do not cause hypoglycemia, such as metformin, Januvia® and Trajenta® are preferred over most other oral agents. Long acting insulins, such as Lantus® and Levemir® are favoured over short acting insulins for the same reason.

The Lesser of Evils - NSAIDs

Ever since the Vioxx® scare ten years ago, non-steroidal anti-inflammatory drug (NSAID) use has been taboo, especially in the elderly. The entire class of drugs can impair renal function, induce the retention of fluid, drive up blood pressure and ultimately cause a sometimes catastrophic cardiovascular event. If these drugs are to be used, the dose and duration of treatment must be minimized. Acetaminophen products and narcotics have replaced the NSAIDs.

It's a shame that these drugs have been driven to near extinction, as they often provide the greatest relief for inflammatory or musculo-skeletal pain. A recent analysis of more than 53,000 regular NSAID users from the Women's Health Initiative Study adds some intrigue to our notions about these drugs.

The analysts grouped the NSAIDs into three categories: COX-2 inhibitors (e.g. Celebrex®) which are the least irritating to the GI tract; mixed NSAIDs with COX-1 and COX-2 blocking actions (e.g. naproxen/diclofenac); NSAIDs that primarily block COX-1 (e.g. ibuprofen/ketoprofen). The COX-2 and mixed group each caused a significant number of cardiovascular events. COX-1 users, however, experienced no more CV events than those who did not use NSAIDs regularly.

This result was surprising, because naproxen was thought to offer the least CV risk of the NSAIDs. Could ibuprofen (Advil®, Motrin®) be safe? Further study is required, but Advil® may be our best option if we are tempted to use one of these drugs.

Prepared by Randy Goodman
Certified Geriatric Pharmacist