# Drug Monitor

## Treating Anemia in CKD

In chronic kidney disease (CKD), anemia can contribute to debilitating fatigue, anorexia, and cardiovascular problems, among other complications. And while effective treatments for anemia in CKD exist, evidence suggests the condition remains underrecognized and undertreated.

As part of the multicenter Simplify the Treatment of Anemia with Aranesp (STAAR) study, funded by Amgen (Thousand Oaks, CA), investigators set out to discover whether darbepoetin alfa, administered subcutaneously once every other week, would treat anemia safely and effectively in patients with CKD over the course of 52 weeks. They enrolled 911 adults with CKD and anemia (mean baseline hemoglobin [Hb] level less than 11 g/dL) who were not receiving dialysis and had not been treated previously with erythropoiesis stimulating proteins. These patients were given an initial dose of darbepoetin alfa 0.75 µg/kg, which was then titrated, as needed, to maintain an Hb level between 11 and 12 g/dL.

At baseline, the mean Hb level was 9.9 g/dL. During the evaluation period (weeks 20 to 32), this level had increased to 11.54 g/dL among the 637 patients remaining in the study. By week 52, the mean Hb level remained at 11.6 g/dL among the 462 patients who completed the final assessment. After initial titration, the mean darbepoetin dose also remained stable throughout the study.

Overall, the treatment was well tolerated. One or more serious adverse events (such as cardiac, renal, and urinary disorders) occurred in 27% of the patients. Twenty-four patients (3.6%) withdrew from the study due to adverse events. Only three, however, had adverse events (one case each of diarrhea, hypertensive crisis, and hypotension) that were believed to be related to the study drug.

The researchers say their results confirm those of two 24-week studies conducted previously in anemic patients with CKD. The mean dose in the present study (44.5 µg) was lower than those in the two earlier studies (60 and 63.5 µg)—a difference the researchers attribute to the lower target Hb level they used (12 versus 13 g/dL in the earlier studies). They also note that recent data suggest that, once patients have stabilized their every other week dosing of darbepoetin alfa, they may be able to switch to once-monthly dosing, which could boost the potential adherence advantage offered by this drug.

Source: *Mayo Clin Proc.* 2006;81:1188–1194.

## Dangerous Asthma Attacks with Salmeterol

The long-acting $\beta_2$-agonist salmeterol may put a subgroup of patients with particularly severe asthma at risk for asphyxial episodes, say physicians from the University of Iowa. They report that moderate exertion triggered such episodes in two patients whose asthma was poorly controlled by salmeterol plus inhaled corticosteroids. The authors note that a previous study linked the drug—which has been shown to control asthma better than simply increasing the dose of inhaled corticosteroids—to a higher risk of asthma-related death.

The patients, both adolescent boys, were admitted for testing after several incidents in which they required emergency care. While still receiving high doses of inhaled corticosteroids and salmeterol, they continued to have bronchospasm within minutes of moderate exercise—even after pretreatment with albuterol or pirbuterol. Repeated inhalations of albuterol helped them recover from the bronchospasm, but the authors say their response to the drug seemed "blunted."

When the salmeterol was replaced for two days with slow-release theophylline, the physicians observed adequate blocking of exercise-induced bronchospasm. During 10 days of inpatient observation for one boy and months of outpatient follow-up for the other, both improved control of their asthma, tolerated exercise after pretreatment, and had virtually no acute symptoms.

Source: *N Engl J Med.* 2006;355:852–853 [research letter].

### Behind the Medicine...

**For our next installment of Sound Off:**

***If you hadn't chosen your current health care career path, what would you be doing instead?***

Responses should be 100 to 200 words and should be received by **January 10, 2007**. Include your name, telephone number, mailing address, and e-mail address. (We will withhold your name at your request.) All responses are subject to editing for length and clarity. Due to space constraints, we regret that we cannot publish all responses we receive.

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