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## **Experimental Gout Medication Outperforms Allopurinol**

Researchers have presented exciting findings to the 2011 European League Against Rheumatism (EULAR) Congress. An investigational gout medication, lesinurad, was able to achieve rapid and sustained reductions in urate levels in gout patients who did not receive the desired results with commonly used uric acid lowering medications.

"Lesinurad, a URAT1 inhibitor that increases the urinary excretion of uric acid, is a potential treatment option for patients with gout," said Dr. Fernando Perez-Ruiz, a Spanish researcher from the Hospital de Cruces, Baracaldo in Vizcaya.

Lesinurad has shown significant urate lowering activity used alone, and in combination with either prescription allopurinol (name brand Zyloprim) or febuxostat (Uloric). The Spanish study involved 208 gout patients who had experienced high blood urate levels for at least 6 months, even while taking the gout drug allopurinol. Patients continued on allopurinol and were randomly assigned to receive either a placebo or lesinurad at doses of 200 mg, 400 mg, or 600 mg for four weeks.

All three groups who were given lesinurad showed significantly lower uric acid levels at the end of the month. The percentage of patients who achieved the target for uric acid levels after treatment was 28% in the placebo group, 71% in the 200 mg group, 76% in the 400 mg group, and 87% in the 600 mg group.

After the initial 4 weeks of treatment, 115 patients entered an extension phase in which most of them continued treatment with 200 mg of lesinurad. At week 28, 83% of the first 30 assessable patients were at target serum urate levels, with no serious adverse effects.

It's assumed that this lowering of uric acid levels will have a significant impact on the dissolving and reabsorption of gout tophi (deposits of crystallized uric acid) in the body.

New gout medications are few and far between, although there are currently at least eight gout drugs "in the pipeline". The first new gout drug to be approved in 40 years was febuxostat (name brand Uloric) in 2009. In 2010 the FDA approved Krystexxa, an intravenous medication for chronic, severe gout that did not respond to other treatments. Due to the stringent FDA approval process, it may be some time before American gout patients can buy Lesinurad.

The lesinurad mechanism of action is different than that of allopurinol and febuxostat. Both allopurinol and febuxostat are xanthine oxydase inhibitors which decrease the production of uric acid. Lesinurad is a uricosuric drug which increases elimination of uric acid through the kidneys.

Initial studies show that lesinurad may have significant advantages over another existing uricosuric drug, probenecid (Benemid), including less interaction with other drugs and more effectiveness in patients taking diuretics. This added benefit is because lesinurad is also active against another important regulator of urate secretion, OAT4. OAT4 is thought to be responsible for the high uric acid levels in gouty arthritis patients whose condition is caused or worsened by diuretics.

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