SOUTHWESTERN NEWS

Media Contact: Staishy Bostick Siem
214-648-3404
staishy.siem@utsouthwestern.edu

EMBARGOED UNTIL 4 P.M. CDT MONDAY, AUG. 25, 2003

EXISTING ANTI-INFLAMMATORY DRUG COULD HELP CHILDREN SUFFERING FROM AN INHERITED BONE DISEASE

DALLAS – Aug. 25, 2003 – A drug commonly used as an anti-inflammatory medication could also help children with an inherited form of rickets avoid complications from their disease, according to UT Southwestern Medical Center at Dallas researchers.

Rickets, specifically X-linked hypophosphatemia, causes bones to soften and weaken because the kidneys waste phosphate, a primary mineral that combines with calcium to make bones and teeth. The disease is similar to osteoporosis but occurs in children with growing bones.

In the mouse study, researchers found that a particular Federal Drug Administration-approved drug, Indomethacin, keeps the body from wasting needed amounts of phosphate without causing the potentially life-threatening complications of conventional therapies. Indomethacin is a drug similar to aspirin or ibuprofen and is commonly used to relieve pain, swelling and stiffness caused by gout, arthritis and other inflammatory conditions.

The researchers' findings appear in a future edition of the *Proceedings of the National Academy of Sciences* and are available online at www.pnas.org. The study results are so promising that plans are already under way for the same study in children, said Dr. Raymond Quigley, associate professor of pediatrics and the study's senior author.

Children with rickets have vital phosphate washed out of the body through urine. Too little phosphate not only leads to rickets but also causes children to be abnormally short and have problems with their teeth and muscles.

"We gave Indomethacin to animals, and we found that the phosphate excreted in urine completely normalized. That was rather surprising and encouraging to us. We hope Indomethacin has the same effect in children," said Dr. Michel Baum, professor of pediatrics and internal medicine and the study's lead author.

(MORE)

BONE DISEASE - 2

Currently, doctors try to counteract the effect of rickets by prescribing phosphate supplements and vitamin D, which forces the intestines to absorb more phosphate before the body can wash it away. This conventional approach is far from perfect, since prolonged treatment can damage kidneys, Dr. Quigley said.

"We are hoping that this very simple treatment with Indomethacin can either do away with that treatment or at least make it so physicians don't have to use such high dosages and won't damage kidneys," he said.

Researchers studied *Hyp* mice, which have the same genetic mutation as people with X-linked hypophosphatemia, and a control group of mice with the same genetic background. The treated mice were injected with Indomethacin twice a day for four days; researchers recorded the phosphate levels in the mice's urine about 12 hours after the last dose was given. Phosphate levels in the *Hyp* mice's urine were much lower than before the treatment. Indomethacin had no effect on phosphate levels in the control group.

Other UT Southwestern researchers who worked on the study were Dr. Mouin Seikaly, professor of pediatrics, and Vangipuram Dwarakanath, research associate in pediatrics. Dr. Samer Loleh and Dr. Neel Saini, both former fellows who are now practicing elsewhere, also worked on the study.

The National Institute of Diabetes and Digestive and Kidney Diseases funded the study.

###