



1725 I Street NW • Suite 510 • Washington, DC 20006
Tel 202-659-0599 • Fax 202-659-0709 • www.asn-online.org

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Contact: Shari Leventhal: 202-416-0658, sleventhal@asn-online.org (before November 14)
Tuesday, November 14: 202-558-8423 (cell)
Wednesday, November 15-Sunday, November 19: ASN Press Room, San Diego Convention Center, Room 13, 619-525-6293 (Press Room), 202-558-8423 (after hours)

GASTRIC BYPASS SURGERY MAY LEAD TO INCREASED KIDNEY STONE RISK

San Diego, CA (November 9, 2006) — Patients who have undergone gastric bypass surgery for morbid obesity have increased risk factors for the formation of kidney stones, according to a paper being presented at the American Society of Nephrology's 39th Annual Meeting and Scientific Exposition in San Diego.

"Gastric bypass surgery appears to lead to changes in the chemical composition of urine that could favor the formation of kidney stones," comments Dr. Rajiv Kumar of Mayo Clinic College of Medicine in Rochester, Minnesota, one of the study authors. "Based upon this information, we suggest that patients take appropriate measures to reduce the potential for kidney stone formation."

From 21 patients who had undergone gastric bypass surgery 6 or 12 months previously, the researchers obtained urine samples to measure biochemical risk factors for kidney stones. All patients had undergone the "Roux-en-Y" procedure, which is the most common type of gastric bypass surgery. The same risk factors were measured in a group of 20 obese patients who were being evaluated for gastric bypass surgery.

The group who had bypass surgery 12 months previously showed several chemical changes that have been linked to an increased risk of kidney stones. These included a significant increase in the level of oxalate—a chemical that increases kidney stone risk by binding to calcium.

The patients also had reduced urine levels of citrate, which normally plays an important role in dissolving crystals that can lead to kidney stones. The combination of high oxalate and low citrate levels led to an increase in calcium oxalate supersaturation—a strong risk factor for stones formed by binding of oxalate to calcium.

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Patients who underwent gastric bypass surgery 6 months previously did not yet have significant changes in oxalate or citrate levels. Levels of other chemicals that can contribute to kidney stones—such as uric acid and potassium—were unaltered from before to after surgery. There were no changes in standard kidney function indicators after gastric bypass.

As the problem of obesity continues to increase in the United States and around the world, more patients are undergoing gastric bypass operations. "Although these procedures have several possible complications, an increased incidence of kidney stones was not believed to be one of them," says Dr. Kumar.

Previous, more extensive gastric bypass operations did lead to increased urinary oxalate levels, and thus to an increased risk of kidney stones. The new study is the first to specifically examine the risk of similar abnormalities following the "Roux-en-Y" procedure, which has become the standard approach to gastric bypass.

"Our results suggest that individuals undergoing such procedures are potentially at increased risk for developing kidney stones," Dr. Kumar concludes. Gastric bypass patients may want to talk to their doctors about dietary changes and other steps they can take to reduce their risk of kidney stones, the researchers suggest.

The study abstract, "Increased Lithogenic Risk Factors Following Roux-en-Y Gastric Bypass Surgery for Morbid Obesity" (TH-F-DS871) will be presented as part of a Poster Discussion Session on the topic of "Nephrolithiasis" on Thursday, November 16 at 10:00 am in Room 3 of the San Diego Convention Center and also discussed during a News Briefing on the topic of "Obesity and the Kidney" on Friday, November 17 beginning at 12:15 pm in Room 12 of the San Diego Convention Center by a co-author, Dr. John C. Lieske.

The ASN is a not-for-profit organization of 9,500 physicians and scientists dedicated to the study of nephrology and committed to providing a forum for the promulgation of information regarding the latest research and clinical findings on kidney diseases. ASN's Renal Week 2006, the largest nephrology meeting of its kind, will provide a forum for 10,000 nephrologists, to discuss the latest findings in renal research and engage in educational sessions relating advances in the care of patients with kidney and related disorders from November 14-19 at the San Diego Convention Center in San Diego, CA.

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