obese group in whom uric acid stones comprised only 11% of stones. Some of these finding are expected based solely on overindulgent eating patterns (elevated urinary calcium, uric acid and oxalate). However, the finding of low urine pH is particularly interesting given the recent report showing that insulin resistance (commonly seen in obese patients) is associated with a defect in ammoniagenesis, thereby leading to an acid urine and subsequent promotion of uric acid stones (1). Although a high acid ash diet (from overindulgence in animal protein) can itself cause a decrease in urinary pH, the findings seen above persisted even when patients were maintained on a controlled metabolic diet, suggesting that the effect is, at least in part, diet-independent.

Of note, the initiation of directed medical and dietary therapy aimed at correcting the underlying metabolic abnormalities resulted in normalization of urinary parameters and a reduction in the rate of stone formation. As such, metabolic evaluation and medical and dietary therapy should be encouraged in these patients, with a good expectation of reduced stone recurrence and consequently less frequent need for surgical intervention.

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Dr. Margaret S. Pearle
Associate Professor of Urology
University of Texas Southwestern Med Ctr
Dallas, Texas, USA

ENDOUROLOGY & LAPAROSCOPY

Nifedipine versus tamsulosin for the management of lower ureteral stones

Propiglia F, Ghignone G, Fiori C, Fontana D, Scarpa RM
From the Division of Urology, University of Turin, Orbassano, Turin, Italy
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Purpose: We evaluate and compare the effectiveness of 2 different medical therapies during watchful waiting in patients with lower ureteral stones.

Materials and Methods: A total of 86 patients with stones less than 1 cm located in the lower ureter (juxtavesical or intramural tract) were enrolled in the study and were randomly divided into 3 groups. Group 1 (30) and 2 (28) patients received daily oral treatment of 30 mg deflazacort, (maximum 10 days). In addition group 1 patients received 30 mg nifedipine slow-release (maximum 28 days) and group 2 received 1 daily oral therapy of 0.4 mg tamsulosin (maximum 28 days), Group 3 patients (28) were used as controls. Statistical analyses were performed using Student's test, ANOVA test, chi-square test and Fisher's exact test.

Results: The average stone size for groups 1 to 3 was 4.7, 5.42 and 5.35 mm, respectively, which was not statistically significant. Expulsion was observed in 24 of 30 patients in group 1 (80%), 24 of 28 in group 2 (85%) and 12 of 28 in group 3 (43%). The difference in groups 1 and 2 with respect to group 3 was significant. Average expulsion time for groups 1 to 3 was 9.3, 7.7 and 12 days, respectively. A statistically significant difference was noted between groups 2 and 3. Mean sodium diclofenac dosage per patient in groups 1 to 3 was 19.5, 26, and 105 mg, respectively. A statistical significant difference was observed between groups 1 and 2 with respect to group 3.

Conclusions: Medical treatments with nifedipine and tamsulosin proved to be safe and effective as demonstrated by the increased stone expulsion rate and reduced need for analgesic therapy. Moreover medical therapy, particularly in regard to tamsulosin, reduced expulsion time.

Editorial Comment

This group from Italy has contributed much to the active pharmacologic management of ureteral stones. They and others have demonstrated the effectiveness of nifedipine (calcium-channel blocker) or tamulosin (alpha-1 blocker) in combination with corticosteroids and non-steroidal anti-inflammatory agents to facilitate stone passage from the ureter. Spontaneous ureteral stones and ureteral fragments after extracorporeal shock wave litotripsy both have been shown to pass more frequently, sooner, and with less pain compared to controls. Unfortunately, all of the randomized studies have included corticosteroids and non-steroidal anti-inflammatory agents in the treatment arms, and the distinct effects of the calcium-channel blocker or alpha-1 blocker alone cannot be ascertained. Nonetheless, at our institution we have used the combination of calcium-channel blockers and non-steroidal anti-inflammatory agents for the treatment of ureteral colic. We have been unwilling to subject stone patients, with potential upper urinary tract obstruction and risk for infection, to the risks of corticosteroids. Anecdotally we have seen favorable results, but we cannot make any statement as to the comparative effectiveness to a treatment also including corticosteroids. This new study, however, leads us to believe that the alpha-1 blocker tamulosin may have even greater effectiveness than nifedipine. Although the incidence of adverse effects was low in this study (only one patient in each of the treatment groups had to suspend therapy owing to adverse effects), one would expect tamulosin to have fewer adverse effects in general. The use of tamulosin and non-steroidal anti-inflammatory agents (plus corticosteroids if the studied treatment is to be applied exactly) should be considered the current best pharmacologic management of ureteral colic.

Dr. J. Stuart Wolf Jr.
Associate Professor of Urology
University of Michigan
Ann Arbor, Michigan, USA

15-Year experience with the management of extrinsic ureteral obstruction with indwelling ureteral stents

Chung SY, Stein RJ, Landsittel D, Davies BJ, Cuellar DC, Hrebinko RL, Tarin T, Averch TD
From the Departments of Urology and Biostatistics, University of Pittsburgh, Pittsburgh, Pennsylvania, USA
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Purpose: We assessed the success of retrograde placement of indwelling ureteral stents in the management of ureteral obstruction due to extrinsic compression.

Materials and Methods: Between July 1987 and December 2002 adequate followup was available for 101 patients who underwent primary retrograde ureteral stenting for extrinsic ureteral obstruction. Mean age at presentation was 61.4 years (range 33 to 90). Chart review was performed on all patients for primary diagnosis, symptomatology, degree of hydronephrosis, creatinine levels (baseline, treatment and post treatment), location of compression, size and number of stents used, progression to percutaneous nephrostomy tube (PNT), stent failure, days to stent failure, post-stent therapy and status at last followup.

Results: Mean length of followup was 11 months (range 1 to 127). In 101 patients 138 ureteral units (UU) were stented. Total stent failure occurred in 41 (40.6%) patients and 58 (42.0%) UU. A total of 40 (29.0%) UU required PNTs at a mean of 40.3 days (range 0 to 330) with 18 PNTs placed in less than 1 week.

Cases of stent failure that did not undergo PNT placement included 18 (13.0%) UU at a mean of 52.4 days (range 3 to 128). A total of 90 (89.1%) patients had metastatic cancer at stenting with 32.2% dead at 5.8 months (range 1 to 32). Univariate and multivariate analyses identified cancer diagnosis, baseline creatinine greater than 1.3 mg/dl and post-stent systemic treatment as predictors of stent failure. Proximal location of compression and treatment creatinine greater than 3.11 mg/dl were marginal predictors of failure on univariate analysis, while proximal location of obstruction was also marginally significant on multivariate analysis. No predictors were identified for early stent failure (less than 1 week).

Conclusions: At almost 1 year followup stent failure due to extrinsic compression occurred in nearly half of treated patients. Analysis of data revealed a diagnosis of cancer, baseline mild renal insufficiency and metastatic disease requiring chemotherapy or radiation as predictors of stent failure. Managing extrinsic compression by retrograde stenting continues to be a practical but guarded decision and should be tailored to each patient.

Editorial Comment

The article reviews a common clinical situation, that being placement of a ureteral stent for extrinsic ureteral obstruction. Almost half of the patients treated with ureteral stents failed within the first year, which is remarkably similar to prior reports. In the later years of this current series the success rate improved to greater than 60%. This might be due to different stent materials, but unfortunately the chart review was such that the authors could not reliably assess this factor. It makes sense that a stiffer and less compressible stent would fare better in this situation. Although one small series suggested that a stiffer stent maintained patency longer (1), this has yet to be confirmed in other series. An internal stent has attractiveness over a percutaneous nephrostomy tube for long-term management, but this approximately 50% failure rate must be acknowledged when counseling patients and when performing follow-up.

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Dr. J. Stuart Wolf Jr.
Associate Professor of Urology
University of Michigan
Ann Arbor, Michigan, USA

IMAGING

Baseline staging of newly diagnosed prostate cancer: a summary of the literature

Abuzallouf S, Dayes I, Lukka H
Kuwait Cancer Control Center, Kuwait City, Kuwait

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Purpose: Staging for prostate cancer often includes bone scanning and computerized tomography (CT). We systematically reviewed the published evidence for these tests.