

Lumbago of a Urologic Origin

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Case History

D.D. is a 44-year-old woman with a six-month history of increasing left unilateral lower back pain. She presented as an urgent walk-in patient after a visit to the local emergency room the previous evening had failed to resolve her low back pain. The emergency room diagnosed her condition as lumbago. She denied any trauma.

Review of systems reveals dysuria. Walking, sitting, and standing increases her pain, while sitting and assuming a recumbent position sometimes decreases it. On initial examination, she reportedly had consumed Ibuprofen 200 mg, up to 10 without relief. (The maximum dose is 3.2-gram/day, and its chronic use may be associated with renal disease.) She associates her pain with slight nausea when it is at its worst. She works in the clerical field and cares for an invalid spouse and teenage son, and reports that she doesn't "have time" to be sick.

The patient's past medical history is remarkable for endocrinopathy and gastroesophageal reflux disease (GERD). Her current medications include daily Prisolec, Synthroid and Ibuprofen.

On physical examination, she is a thin, ill-appearing woman, alert but in no apparent distress. She has some mild discomfort in her left flank when transferring to the examining table and exhibits Minor's sign upon arising. She can forward flex 90 degrees and exhibits some dural tension on bilateral leg raise. She can hyperextend, but with vague complaints of localized low back pain. Motor examination of the lower extremities is normal; the sensory and deep tendon reflex examinations are normal; range of motion of her hips and joints in the lower extremities does not reproduce her pain; the distal vascular exam is normal.

Chiropractic assessment yields joint fixation of T-8, T-9 and T-10. Lumbar *multifidis* with passive rotation was exquisitely tender, left-sided on digital play. Murphy's kidney punch was positive left to deep, boring-type pain.

Radiographic weightbearing imaging studies were performed to evaluate her dorsolumbar spine. There is a uniform loss in posterior disc height with associated discogenic endplate irregularities involving T-8 through T-10, and L-1 through L-2, accompanied by facetar sclerosis; associated encroachment of the neuroforamina of the aforementioned regions; marked opposing laterolisthesis involving the spinous process of T-8 and T-9; and hyperlordotic lumbar curvature.

Of clinical interest is that on a subsequent chiropractic visit following her third adjustment, she presented with nausea and transient hypertension at 160/100 with marked flank pain. No positioning was comfortable, she vomited once and excused herself to the restroom where she remained as I tended to other patients over the next hour. When she reappeared, her vital signs had stabilized and she felt better. I discussed with her the possibility of kidney stones. She informed me that she hadn't had one in about six years, and that, this seemed quite similar. She later went home without further event while promising to seek emergency care if her symptoms reappeared.

She presented smiling 48 hours later as a walk-in, stating she just wanted to thank me. Apparently she had experienced somewhat of a horrific evening after leaving my facility. She'd pushed as much water as she could, and had passed what felt like many little stones. She rested the next day, without experiencing any ill effects.

Discussion: Kidney Stones

Stones can be a recurrent problem, as about 60 percent of people treated for stones develop the condition again within seven years. Once a person gets more than one stone, he or she is likely to develop others. Mild chronic dehydration is thought to play a role in the development of kidney stones, which may account for the increased incidence of kidney stones in the summer, when people sweat more and have more concentrated urine.

About 20 percent of kidney stones are called "infective," and are related to chronic infections of the urinary tract. These stones are comprised of calcium, magnesium, and ammonium phosphate, and are associated with a high aluminum content and high alkaline content in the urine, due to bacteria.

Seventy percent of kidney stones are comprised of calcium oxalate and/or phosphate. Oxalate is naturally present in the urine, and the salt it forms with calcium has a low solubility (does not dissolve easily), so increased levels of oxalate in the urine lead to stone formation. The other 10 percent of stones occur for less common reasons.

A kidney stone develops from crystals that separate from urine and build up on the inner surfaces of the kidney. Urine contains chemicals that normally prevent these crystals from forming. These chemicals don't work for everyone, however, and some people form stones.

From the kidney, the urine is propelled by peristaltic action along a 25-cm muscular ureter into the urinary bladder. The bladder leads to the urethra to the exterior of the body. While cutting the dorsal nerve routes of T12, L1, and L2 may relieve renal pain, a denervated kidney continues to excrete normal urine. The bladder and urethra receive both parasympathetic and sympathetic nerves. The parasympathetic pelvic splanchnic nerves (S2, 3,4) are the motor nerves to the bladder; when they are stimulated, the bladder empties. They are also the sensory nerves to the bladder. The sympathetic superior hypogastric plexus (lower thoracic and lumbar 1,2,3) is motor to the ureteric musculature.

Usually the first symptom of a kidney stone is extreme pain in the kidney area or lower abdomen. The pain often begins suddenly when a stone moves in the urinary tract, causing urination or blockage. Sometimes nausea or vomiting appears with this pain, which later, may move to the groin. As the stone grows or moves, blood may be found in the urine. Other common symptoms include the need to urinate more often or a burning sensation when urinating. Fever and chills accompanying any of these symptoms could signify an infection, and require immediate attention. Kidney symptoms subside as the calculus becomes dislodged and floats back to the renal pelvis.

This case illustrates the typical clinical and radiographic findings of posterior joint syndrome with kidney stones. Although the patient did have very mild mechanical low back pain involving the dorsolumbar region, presumably related to the unstable laterolisthesis segment and their facets, her major symptoms were related to the acute urologic pain caused by kidney stones. Urinalysis displayed hematuria.

Typically, after you have obtained a history from the patient, you should have the patient give you a urine sample before the physical examination. An assistant may perform the tests on the sample

while you are examining the patient. The result will be waiting for you and you will be able to screen for any underlying disease processes. The information may be helpful in formulating the etiology of your final diagnosis.

A routine urine dipstick investigation should include: appearance; color; pH; glucose; protein; leukocyte esterase; nitrites; hemoglobin; and specific gravity. As with any laboratory result, clinical correlation is necessary.

A simple and important lifestyle change for your patients to undertake if they have kidney stones is to drink more liquids - water is best. They should drink enough throughout the day to produce at least two quarts of urine every 24 hours.

Dietary advice; avoid oxalate foods likes beans; beets; green peppers; spinach; chocolate; tea; peanuts; salt; soft drinks; and wheat bran, since oxalate combines with calcium to form insoluble crystals that make up most kidney stones.

In this case spinal manipulation, offered some rapid symptomatic relief. Specific adjusting was being directed at the dysfunctional joints above and below the dorsolumbar to reduce the pain and disability.

If conservative chiropractic treatment had not helped this patient, she probably would have had to undergo surgical intervention. This often occurs when the large (greater than 8 mm in diameter) *calculi* is lodged at the ureteropelvic junction. Option in management also includes extracorporeal shock (sound) wave lithotripsy or percutaneous ultrasonic lithotripsy. (Postadjustment therapy included ultrasound utilized over the left flank/paraspinals at 1.5 W/cm² at 15-minute sessions.)

Doctors of chiropractic can enhance their diagnostic ability and expand their scope of just by including routine screening examination, such as a urinalysis, on their patients. These investigations are easy to use in the office and should be performed as a routine part of every physical examination. The information obtained may indicate potentially serious organic or metabolic disorders and save the patient from chronic disease.

Louis Napoleon, nephew of Napoleon Bonaparte, lost the Franco-Prussian War of 1870, due wholly or in part from impaired kidney function resulting from kidney stone formation. Isn't chiropractic care about optimum performance?

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