

Editorial Comment

On MR imaging, most renal masses are hypointense on T1 and hyperintense on T2, thus comparison between T1-weighted image pre and post intravenous injection of contrast readily shows variable degree of hyperintensity of the lesions due to contrast enhancement (particularly hypervascular ones). Some lesions, however, are hyperintense in T1-weighted images making the perception of contrast enhancement a very difficult task. These hyperintense lesions on T1-weighted images are either benign (hemorrhagic cyst, hematoma, vascular lesion or oncocytoma) or malignant masses (papillary renal cell carcinoma). Image subtraction technique is very useful for the demonstration of subtle contrast enhancement in hyperintense T1 lesions. Image subtraction however can be of limited value in patients with irregular respiratory movements, which precludes adequate images subtraction.

DW imaging has been used to assess several renal disorders: infection, ischemia, obstruction and masses. The authors of this manuscript show that DW imaging can be of value to characterize non-fat-containing T1 hyperintense lesions. They found that the diffusion is more restricted in renal cell carcinoma (lower ADC values) than in benign hemorrhagic or proteinaceous cyst. Although with lower sensitivity than that image subtraction, the authors recommend DW imaging as an alternative to contrast-enhanced MRI in patients with chronic renal insufficiency that are at risk for development of nephrogenic system fibrosis secondary or associated with gadolinium-containing agent.

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Imaging appearance of granulomatous disease after intravesical Bacille Calmette-Guerin (BCG) treatment of bladder carcinoma

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Objective: The purpose of our study is to present the radiographic findings in a series of 16 patients with complications associated with intravesical bacille Calmette-Guérin (BCG) treatment of bladder cancer.

Conclusion: Intravesical BCG-related complications such as granulomatous disease may show imaging findings mimicking primary or metastatic tumors in patients with bladder cancer. Radiologists should consider this possibility when imaging abnormalities are encountered in bladder cancer patients treated with intravesical BCG so that appropriate management can be administered and unnecessary procedures avoided.

Editorial Comment

Intravesical therapy with bacillus Calmette-Guérin (BCG) has proved to be more effective in the prophylaxis and treatment of superficial bladder tumors and carcinoma in situ than most chemotherapeutic agents. Some complications however may occur with this treatment. Granulomatous reaction may occur either in the urinary tract or sporadically outside the urinary tract (hepatitis, disseminated infection, miliary tuberculosis and polyarthritis).

This manuscript calls the attention of radiologists and urologists regarding the imaging manifestations of these complications. As it shown by the authors, granulomatous reaction may resemble focal primary renal or bladder tumors and focal or diffuse prostatic tumors. Since instillation of BCG is indicated for treatment of

superficial bladder cancer, the finding of focal nodularity in the bladder wall is very difficult to differentiate from bladder cancer and bladder biopsy or surgical pathology is necessary. Similarly, transrectal biopsy of the prostate is mandatory to exclude prostate cancer in these patients.

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UROGENITAL TRAUMA

Impact of obesity in damage control laparotomy patients

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Background: Obesity is an independent predictor of increased morbidity and mortality in critically injured trauma patients. We hypothesized that obese patients in need of damage control laparotomy (DCL) will encounter an increase incidence of postsurgical complications with a concomitant increase mortality when compared with a cohort of nonobese patients.

Methods: All adult trauma patients who underwent DCL during a 4-year period at a Level I Trauma Center were retrospectively reviewed. Patients were categorized into nonobese (body mass index [BMI] < or = 29 kg/m), obese (BMI 30-39 kg/m), and severely obese (BMI > or = 40 kg/m) groups. Outcome measures included the occurrence of postoperative infectious complications, failure of primary abdominal wall fascial closure, acute respiratory distress syndrome, acute renal insufficiency, multiple system organ failure, days of ventilator support, hospital length of stay, and death.

Results: During a 4-year period, 12,759 adult trauma patients were admitted to our Level I Trauma Center of which 1,812 (14.2%) underwent emergent laparotomy. Of these, 104 (5.7%) were treated with DCL: nonobese, n = 51 (49%); obese, n = 38 (37%); and severely obese, n = 15 (14%). In a multivariate adjusted model, multiple system organ failure was 1.82 times more likely in severely obese (95% CI: 1.14-2.90) and 1.74 times more likely in the obese patients (95% CI: 1.14-2.66) when compared with patients with normal BMI after DCL (p < 0.01). In the severely obese patients undergoing DCL, significantly elevated prevalence ratios (PR) for development of postoperative infectious complications, acute renal insufficiency, and failure of primary abdominal wall fascial closure were 1.75, 3.07, and 2.62, respectively. Days of ventilator support, length of stay, and mortality rates were significantly higher in severely obese patients (24 days, 27 days, and 60%) compared with obese (14 days, 14 days, and 21%) and nonobese (9.8 days, 14 days, and 28%) patients.

Conclusion: Severe obesity was significantly associated with adverse outcomes and increased resource utilization in trauma patients treated with DCL. Measures to improve outcomes in this vulnerable patient population must be directed at multiple levels of health care.