Spontaneous Bladder Abscess in an Adult Female

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Abstract

Introduction: Bladder abscess is an extremely rare occurrence without predisposing factors such as neurogenic bladder, trauma, or inflammatory bowel disease.

Case: A 52-year-old woman was transferred to the Gynecologic Oncology for surgical management of a complex partially cystic and solid adnexal mass. She had no known risk factors for a bladder abscess. Intraoperative findings revealed a complex abscess arising from the left posterolateral dome of the bladder and occupying the left adnexa with normal gynecologic organs. Abscess excision and partial cystectomy was performed in conjunction with Urology.

Conclusion: We report the first case of a spontaneous bladder abscess arising in an adult female.

Keywords: Spontaneous Bladder Abscess

Background

Bladder abscess is a rare presentation of lower urinary tract infections and have hitherto been described only in Urology and Pediatric literature [1-7]. We present a case of a complex pelvic mass managed by Gynecologic Oncology which revealed a large contained bladder abscess. We believe this is the first documented case of a spontaneous bladder abscess in an adult woman.

Case Report

An obese 52-year-old female was transferred to the Gynecologic Oncology service following the finding of a complex pelvic mass. The patient had presented to a community hospital Emergency Room for evaluation of a three-day history of left lower quadrant pain that had been constant, severe, and progressive in nature to the point that only minimal relief was obtained with IV morphine. The patient denied fevers but did admit to polyuria, polydipsia, and unintentional weight loss of ten pounds over the preceding six months. Her medical history was significant for rheumatoid arthritis with associated deforming arthropathy of her bilateral hands. Because of this the patient was on methotrexate and chronic steroids and living in an assisted living facility. She also was status post bilateral hip replacement and Nissen fundoplication. She stated that in the preceding two months she had been treated twice for urinary tract infections. She used a power-chair to mobilize and was able to void and defecate independently. Her vitals on presentation were notable for a mild range tachycardia in the low 100s; she was afebrile. Physical exam revealed severe left sided abdominal tenderness to deep palpation with a pelvic exam limited by habitus and pain. Her accompanying computed tomography (CT) of the abdomen and pelvis described a septated mass measuring 11×7×11 cm in the left lower quadrant felt to arise from the left ovary. It was associated with bilateral hydronephrosis and was reported as being concerning for neoplasia given its complexity (Figure 1). A subsequent pelvic ultrasound further described a complex appearing bi-lobed solid and cystic left adnexal mass with vascular septations and no normal ovarian tissue seen on the left or the right. The urinary bladder was not visualized (Figure 2 and 3). A retroperitoneal ultrasound confirmed severe bilateral hydronephrosis and commented on bladder wall thickening. Her lab values were significant for a leukocytosis of 16.2 thousand/ul, with 82.9% segmented neutrophils and no associated bandemia. Creatinine on presentation was 0.66 mg/dL and her admission urinalysis was notable for the presence of nitrites, leukocyte esterase, white and red blood cells, bacteria, and mucus. A Hemoglobin A1C returned at 6.3%. A CA-125 level returned at 9 units/mL. The patient was counseled on our recommendation for an exploratory laparotomy with removal of pelvic mass and the possibility of comprehensive staging, including hysterectomy, if intraoperative frozen section returned with concern for a gynecologic malignancy.

In the operating room, a pelvic exam under anesthesia was limited by significant bladder distension: purulent urine was expressed from the urethra with bimanual exam. A Foley catheter was placed and drained copious amounts of purulent urine: a total of 3700 mL was drained during the 2.5 hour surgery. Intraoperatively, a large smooth cystic structure was encountered occupying the left adnexa and densely adherent to the left posterolateral dome of the bladder with no discernible plane. It contained purulent material identical in appearance to that expressed through the Foley. Her uterus and bilateral fallopian tubes were clearly visualized and normal in appearance. Her bilateral ovaries appeared post

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menopausal and were without cyst or mass. Frozen section obtained from the mass suggested an abscess arising from the bladder and Urology was consulted intraoperatively. The bladder was bivalved and the bladder mucosa noted to be significantly erythematous, consistent with acute cystitis. The abscess wall was excised entirely with some bladder wall and sent for pathology. The bladder was then carefully inspected with no diverticulae identified. The patient was noted to be making copious and constant urine flowing from bilateral ureteral jets. The bladder was closed in two layers and the closure confirmed to be water-tight. A Foley catheter was left in situ. Because her gynecologic organs appeared normal, no gynecologic surgery was performed.

Postoperatively, urine cultures from the outside institution returned a pan-sensitive Klebsiella Pneumoniae and the patient was commenced on intravenous ceftriaxone per recommendation of the Infectious Diseases service. The same organism was later grown from both admission urine culture and abscess contents. Final pathology returned as “bladder wall with fat necrosis with reactive fibroplasia with marked inflammatory infiltrate consistent with infectious etiology”. The patient was discharged to a skilled nursing facility in a stable condition on postoperative day six with her Foley catheter in place and a peripheral intravenous catheter to complete a three-week course of intravenous antibiotics. CT imaging performed four weeks postoperatively confirmed a watertight bladder with complete resolution of the abscess. At a four-week post-operative assessment, the patient was feeling well overall with complaints of improving mild stress incontinence symptoms following her Foley removal.

Discussion

Bladder abscesses are rare and reported infrequently. Etiology has been attributed to neurogenic bladder, catheterization, and foreign body [1]. Abscess formation has also been described associated with urachal remnants or inflammatory bowel disease [2,3]. The only documented case arising in an adult woman developed as a complication following a midurethral sling procedure: spontaneous abscess formation in an adult woman has not been described [4].

The most common patient presenting complaint of bladder abscess is suprapubic pain associated with leukocytosis [1-3]. Management varies from Interventional Radiology guided drainage to exploratory laparotomy with a partial cystectomy described in only two other cases [1-3,5,6]. The most common infectious etiology described is Staphylococcus Aureus; Klebsiella Pneumoniae has never been described [1-3]. In almost all cases, treatment with IV antibiotics was undertaken following drainage with complete resolution of the abscess [1-6].

While this patient had no underlying medical conditions predisposing her to this condition, she did describe recent urinary tract infections: it cannot be known if these were the nidus of this abscess or manifestations of it. Her long-term steroid use likely resulted in chronic immunosuppression and contributed to abscess development. Why a bladder abscess formed remains unclear as the location did not favor a urachal remnant and there were no bladder diverticulae. The patient also did not have classic risk factors such as recurrent catheterization or underlying bowel disease. Klebsiella Pneumoniae is commonly seen as a source of urinary tract infections in hospitalized patients, and while this patient was not hospitalized, she was institutionalized in a long-term assisted living facility that could have granted her exposure to this pathogen.

Life threatening morbidity from bladder abscess has been described, but this patient was discharged in a stable condition with complete resolution of her abscess [1]. Recognition of bladder pathology intraoperatively and prompt consultation to Urology spared this patient surgical morbidity from multiple procedures and was a crucial component to a successful outcome. While spontaneous bladder abscess has been described before in adult and child males, to our knowledge, this is the first report of a spontaneous abscess of the bladder wall occurring in an adult female.

References


Citation: Tomlin K, Willmott LJ. Spontaneous Bladder Abscess in an Adult Female. J Gynec Obstet 2017; 1:010.