Perianal abscess as a complication of intravesical administration of Bacillus Calmette-Guerin for bladder cancer

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To the Editor,

Most of the anorectal abscesses result from acute infection of the anal glands extending from the anal crypts. Approximately 10% are due to other causes such as Crohn's disease, trauma, hematologic malignancies, human immunodeficiency virus, tuberculosis, actinomycosis, sexually transmitted diseases, radiation therapy, foreign body or anal surgery. Herein we present a rare case of perianal abscess developing as a complication of intracavitary administration of Bacillus Calmette-Guerin (BCG) for bladder cancer.

An 80-year-old man was diagnosed with high-grade papillary urothelial carcinoma. He underwent transurethral resection of the bladder cancer followed by weekly intravesical BCG therapy. Anal pain exacerbated by sitting and defecation developed 10 days after he received his sixth instillation of intravesical BCG. He denied any fever, night sweats, abdominal pain or diarrhea. Physical examination revealed erythematous, fluctuant, subcutaneous 4 × 4 cm swelling in the perianal region. Laboratory tests including complete blood count, biochemical parameters and human immunodeficiency virus were all normal. Abdomen ultrasonography and chest X-ray were normal. The abscess was treated by incision and drainage. Examination of the aspirated pus by Ziehl Neelsen's staining revealed acid-fast bacilli. He was started on an antituberculosis treatment including isoniazid (300 mg/day), rifampin (600 mg/day), and ethambutol (1500 mg/day) for 2 months to be followed by a scheduled treatment of isoniazid and rifampin for 7 months. He recovered fully after two months of treatment.

BCG is a live attenuated strain of *Mycobacterium bovis*. Intravesical instillation of BCG for the treatment of superficial bladder cancer was first described in 1976 (1). It is currently considered as a first-line adjuvant treatment for recurrent or high-grade superficial bladder tumors. The mechanism by which BCG promotes an antitumor effect is unclear but is probably related to local ischemia due to severe inflammation and immune response via cell-mediated immunity and a variety of cytokines (2).

Intravesical BCG therapy is generally considered safe. Complications can be local or systemic. Local complications include cystitis, hematuria, prostatitis, epididymitis, and ureteral obstruction. Systemic side effects include fever, influenza like symptoms, malaise and chills, arthralgia and arthritis, rash, pneumonitis with miliary pattern, granulomatous hepatitis, renal abscess, osteomyelitis, bone marrow involvement and sepsis. Clinically significant complications occur in less than 5% of patients (3). BCG bacilli have been shown to persist in the urinary tract for more than one year after intravesical adminstration of BCG (4). Therefore patients have a risk for disseminated infection in the long term.

Hematogenous spread of BCG and immunoallergic reactions are the two main mechanisms behind the development of systemic complications. Inflammed and/or disrupted uroepithelium due to deep bladder tumor resection, traumatic catheterization, deficiency in cellular immunity, and unhealed surgeries of prostate or bladder in the 2 weeks prior to BCG therapy are among the factors thought to assist hematogenous spread of *M. Bovis* (2). Advanced age is also considered a risk factor for complications. Antituberculosis agents other than pyrazinamide in combination with corticosteroids are the treatment of choice for disseminated BCG infection.

Gastroenterologists rarely come across with increased cholestatic liver function tests due to granulomatous hepatitis following intracavitary BCG treatment. Perianal abscess is a rare complication of intracavitary BCG. Clinical awareness can prevent unnecessary investigations.

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