



Inflammation and infection

Eosinophilic cystitis caused by *Candida glabrata*: A case reportDavid T. Duong^{a,*}, Harris S. Goodman^b^a Urology Associates, P.C., 2801 Charlotte Avenue, Nashville, TN, 37209, USA^b Saint Francis Memorial Hospital, 900 Hyde Street, San Francisco, CA, 94109, USA

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ABSTRACT

Eosinophilic cystitis is a rare disease of the bladder, for which there is no clear cause or standard treatment. We report the case of a 61 year old man who presented with irritative voiding symptoms and gross hematuria. Cystoscopy showed diffuse urothelial erythema and a posterior bladder wall ulcer. Bladder biopsy revealed marked eosinophilic cystitis with ulceration. Urine culture grew *Candida glabrata*. After treatment with oral fluconazole, his voiding symptoms resolved and subsequent bladder biopsy revealed a complete dearth of eosinophils. This is the first case report linking eosinophilic cystitis to *Candida glabrata*.

Introduction

Eosinophilic cystitis is a rare inflammatory disorder of the bladder, first reported by Edwin Brown in 1960.¹ Since then, less than 200 cases have been documented. The etiology and pathogenesis of eosinophilic cystitis have remained elusive. This condition often presents with dysuria, hematuria, urinary frequency, urgency, and suprapubic pain. Pseudotumor forms of eosinophilic cystitis can be mistaken for malignancy.² Diagnosis is confirmed via biopsy with histologic examination, showing diffuse eosinophilic infiltration of the bladder wall with at least 1 eosinophil per high power field (HPF).³ Therapy often involves corticosteroids, antihistamines, nonsteroidal anti-inflammatory drugs, or surgical resection.^{2,4,5}

Case report

A 61 year old HIV-positive man presented with an 18-month history of marked storage symptoms, including urinary urgency, urinary frequency every 30–60 minutes, and nocturia every 1–2 hours. His symptoms were preceded by a single episode of gross hematuria. He has a 30 pack-year history of smoking, but quit at the age of 50. His storage symptoms persisted despite treatment with antibiotics and antimuscarinics by his referring physician. His frequency volume chart revealed a functional bladder capacity of about 100 ml. Urine cytology showed no malignant cells. CT urogram revealed asymmetric bladder wall thickening and some perivesical fat stranding.

Cystoscopy under anesthesia showed diffuse urothelial erythema, a posterior bladder wall ulcer, and a maximal bladder capacity of 180 ml. Bladder biopsy revealed ulceration, marked acute and chronic

inflammation, and up to 80 eosinophils per HPF, consistent with eosinophilic cystitis (Fig. 1). Urine culture grew 50–75 K cfu/ml of *Candida glabrata*. After completing a 2-week course of oral fluconazole, his storage symptoms resolved. Repeat urine culture grew no bacteria or fungi. Subsequent bladder biopsy revealed resolution of his prior eosinophilic cystitis, with a complete dearth of eosinophils (Fig. 2).

Discussion

Eosinophilic cystitis is a rare and poorly understood inflammatory disorder of the bladder. Although no clear cause has been determined, previous reports have associated eosinophilic cystitis with a panoply of allergens (food, iodine, latex), infectious microbes (BK virus, *Enterobacter*, *Proteus mirabilis*), parasites (*Echinococcus granulosus*, *Sparganum*, *Toxocara cati*), medications (mitomycin, salicylazosulfapyridine, thiotepa, tranilast, warfarin), and other medical conditions (allergic rhinitis, eosinophilic enteritis, omphalitis, urothelial carcinoma).^{3,5} To our knowledge, this is the first report linking eosinophilic cystitis to *Candida glabrata*.

The clinical symptoms commonly associated with eosinophilic cystitis include dysuria, hematuria, urinary frequency, urgency, and suprapubic pain. Less often, patients may present with urinary incontinence, retention, fever, pneumaturia, or spontaneous bladder perforation.^{2,3} The diagnosis is made by histopathologic confirmation of diffuse, transmural infiltration of eosinophils throughout the bladder wall. The patient in this case presented with irritative voiding symptoms and gross hematuria. Initial bladder biopsy revealed up to 80 eosinophils per HPF, consistent with severe eosinophilic cystitis.

No standard therapeutic protocol has been established for

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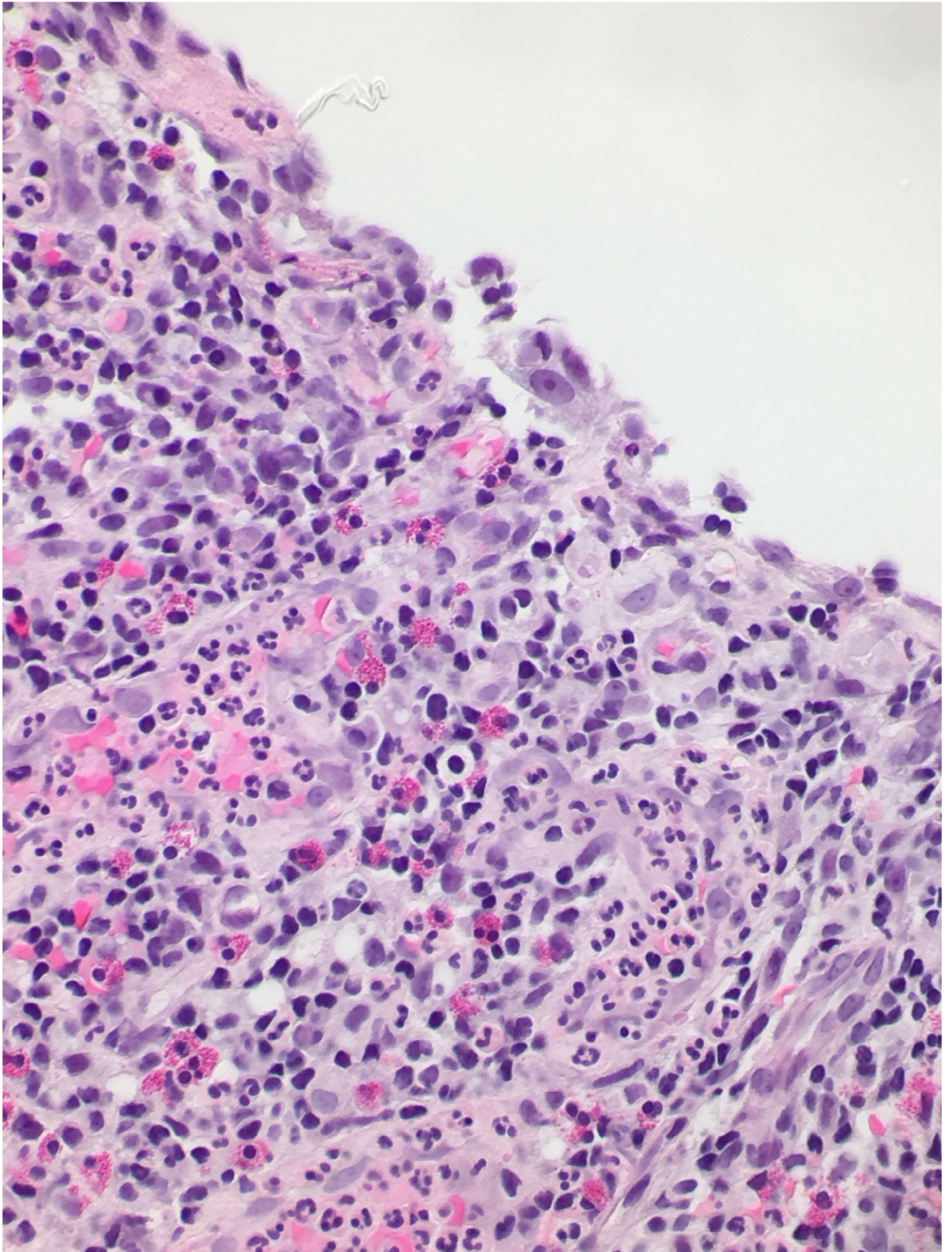


Fig. 1. Pre-treatment bladder biopsy revealing marked eosinophilic cystitis with ulceration.

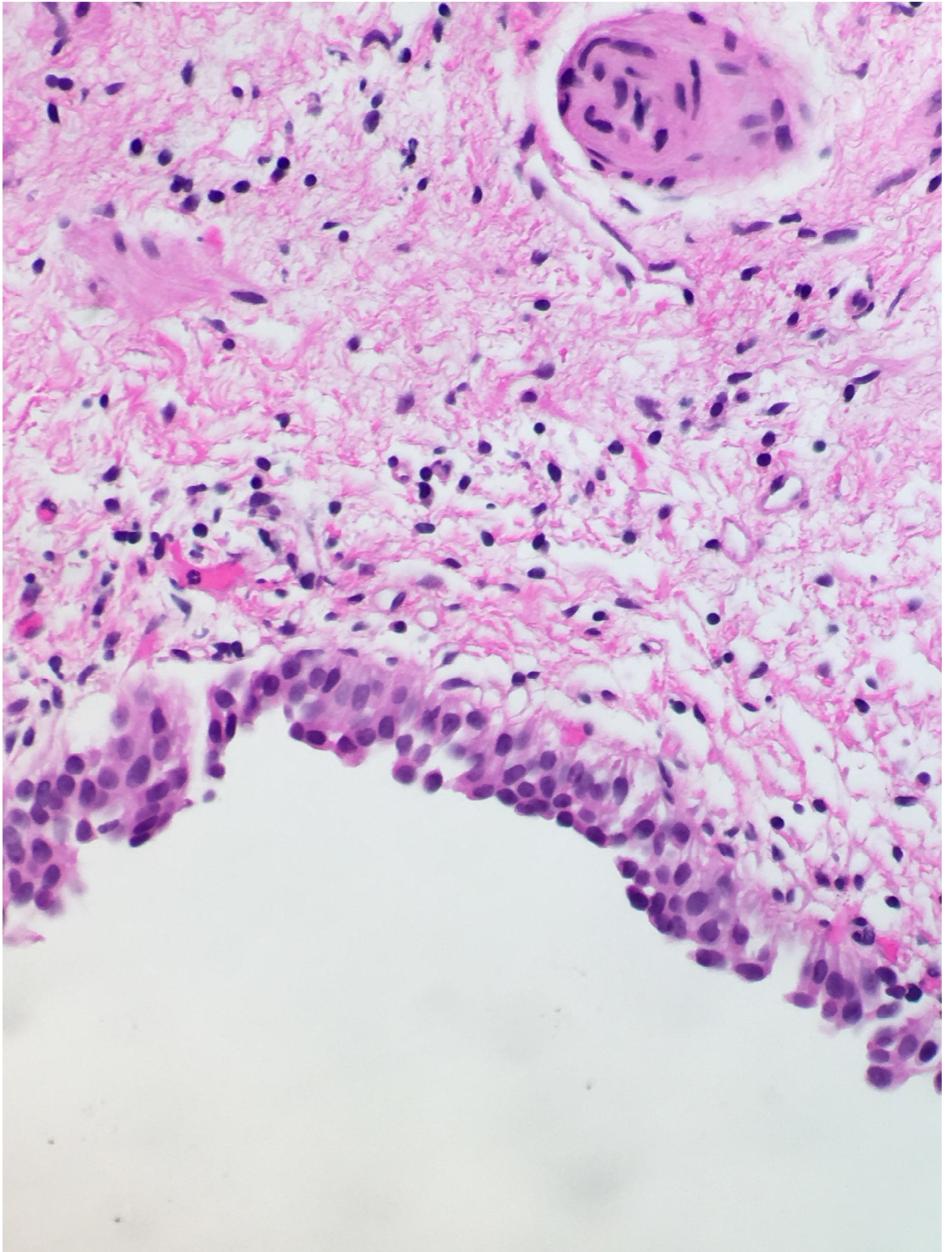


Fig. 2. Post-treatment bladder biopsy revealing complete resolution of eosinophilic cystitis.

eosinophilic cystitis. A wide variety of medical regimens have been reported, including antibiotics, antihistamines, corticosteroids (oral and intravesical), and nonsteroidal anti-inflammatory drugs. Surgical interventions have included electrocautery, endoscopic resection, partial cystectomy, and radical cystectomy.³⁻⁵ In this particular case, treatment with oral fluconazole resulted not only in symptomatic relief, but also in resolution of the underlying eosinophilic cystitis upon post-treatment bladder biopsy.

Conflicts of interest

The authors have no conflicts of interest to declare.

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