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Case Report

Cystitis glandularis as a cause of bladder perforation: a case report with review of literature

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ABSTRACT

A 35 year old woman presented with fever and lower abdominal distension 2 weeks following transvaginalvesico-vaginal fistula repair. Contrast enhanced computed tomography & cystoscopy revealed extravasation of contrast from perforation site (1.5 x 1cm) near bladder dome, 3.5 cm away from the repair site. Cold cup biopsy from perforation margin showed cystitis glandularis. Patient was managed conservatively by prolonged catheter drainage followed by transurethral resection of healed perforated site. Patient was followed up for one year thereafter, and during this period no complication was reported.

KEYWORDS: Bladder perforation, Cystitis glandularis, Incontinence, Transurethralresection, Vesico-vaginal fistula.

INTRODUCTION

Cystitis glandularis is defined as glandular metaplasia of transitional epithelium of the urinary bladder due to prolonged irritation of the mucosa by calculi, persistent infection and bladder outlet obstruction. Cystitis Glandularis is not a rare disease but it being a cause of bladder perforation has not been reported in the literature earlier. Patients present with complaints of frequency, urgency, dysuria and frequency. It is usually diagnosed after bladder biopsy for subtle mucosal changes and gross mucosal hyperemia. Treatment options include long term antibiotic therapy, removal of the etiologic agent or transurethral resection (TUR) of focal lesion. We present a case of bladder perforation which occurred due to cystitis glandularis following repair of vesico-vaginal fistula (VVF).

CASE REPORT

A 35 year old woman developed VVF after hysterectomy done for dysfunctional uterine bleeding. It was repaired transabdominally at a tertiary care centre. However six months following VVF repair, patient again presented with a complaint of total urinary incontinence. Her cystoscopy revealed a 1 x 1 cm supratrigonal fistula. Routine laboratory investigations were normal. The patient underwent transvaginal VVF repair without interposition flap with suprapubic catheter (SPC) and per-urethral catheter (PUC) insertion. She was discharged on postoperative day eight. Two weeks after the repair, she developed lower abdominal distension and low grade fever. Ultrasound lower abdomen & CT abdomen revealed extraperitoneal extravasation of contrast from the bladder with collection in the pelvis with SPC and PUC in situ (Figure- 1). Cystoscopy showed inflamed hyperemic mucosa along with a perforation of 1.5 x 1 cm near the bladder dome, 3.5 cm away from the repair and SPC site. Cold cup biopsy from perforation margin was taken which showed cystitis glandularis (Figure -2). SPC was removed. Patient was managed conservatively with prolonged per-urethral catheter drainage for 6 weeks. Micturatingcystourethrogram (MCU) done after 6 weeks of VVF repair did not reveal any extravasation (Figure-3). Transurethral resection of bladder mucosa at healed perforation site was done after 3 months which revealed histopathological changes suggestive of cystitis glandularis. Check cystoscopy was done 3 monthly for a period of one year and it did not show any apparent mucosal changes or tumor formation at healed perforated site.

DISCUSSION

Cystitis Glandularis is not a rare disease but it being a cause of bladder perforation has not been reported in the literature earlier. Cystitis glandularis was first described in 1761 by Morgani. It develops from the Von Brunn nests which are the epithelial clusters in the mucosal lamina propria. It is more common in males and mainly occurs in the 5th decade[1]. Etiology includes chronic irritation of the bladder mucosa by indwelling urethral or suprapubic catheter, bladder stone or urinary tract infection (UTI) which irritates the bladder mucosa and causes glandular metaplasia of transitional epithelial cells[2]. These risk factors were also present in our case. Cystitis glandularis is also considered as a premalignant condition which predisposes to adenocarcinoma of the bladder[3]. Patients are usually asymptomatic[4], however

few patients may present with frequency, dysuria, urgency and hematuria due to chronic irritation. It may turn into a mass lesion which can obstruct bladder neck leading to obstructive urinary symptoms[5]. The patient may then develop proximal hydroureteronephrosis (HDUN) and pyelonephritis[6].

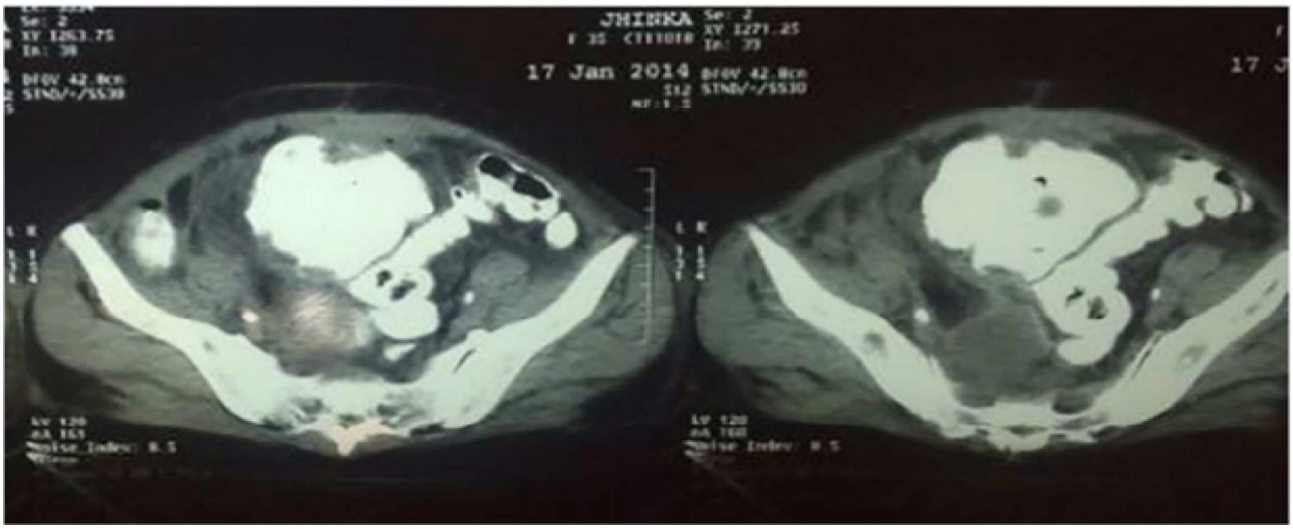

Figure 1:CT Abdomen showing extraperitoneal extravasation of contrast from bladder and collection in pelvis posterior to bladder.

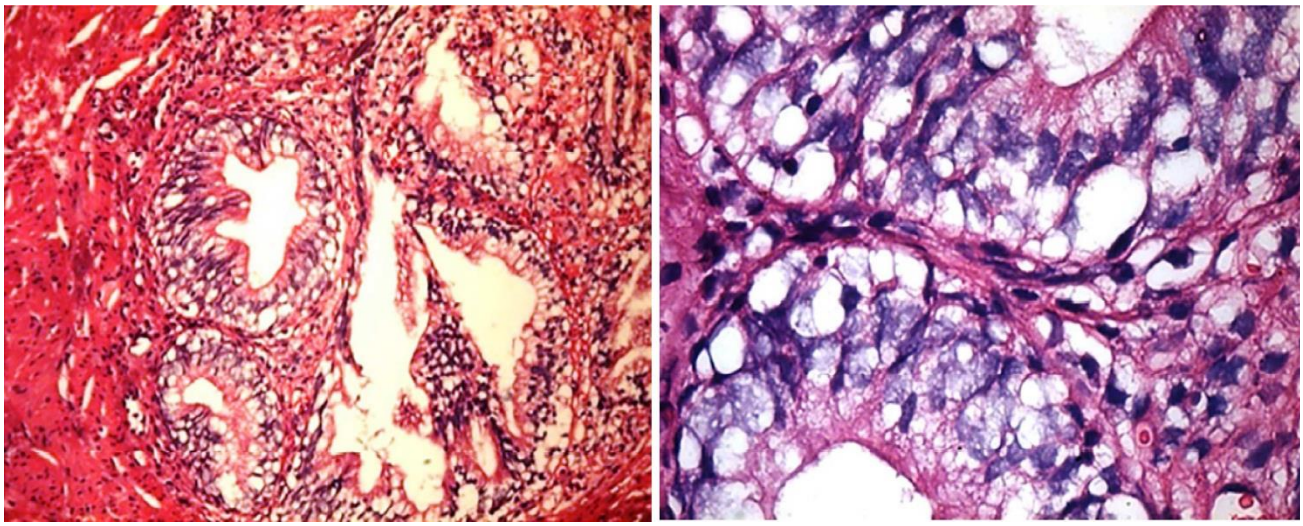

Fig 2: (H&E x100) show glands limited to lamina propria consistent with diagnosis of cystitis glandularis.(H&E x 400) shows glandular epithelium with few cells showing cytoplasmic vacuolation.

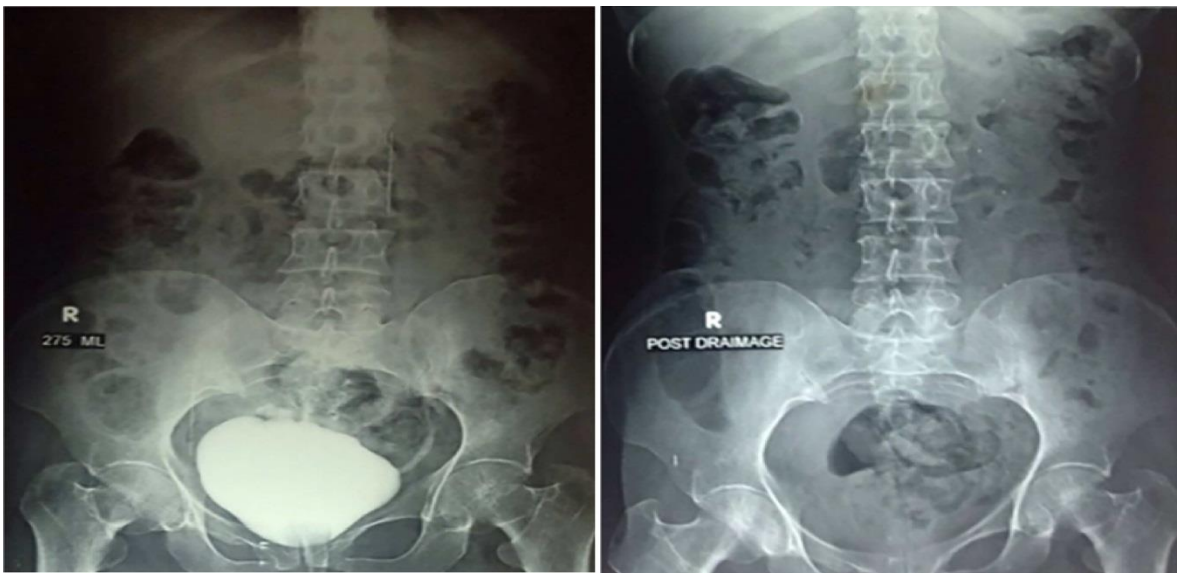

Fig 3:MCU at 6 weeks showing no extravasation of contrast from bladder,complete drainage of contrast in post void film.

Cystoscopy shows cobblestone appearance but may appear as papillary or polypoid mass near the bladder neck and trigone[1]. A biopsy is usually necessary for diagnosis[5]. Transurethral resection (TUR) of lesion is the preferred treatment in most cases[7]. In cases where recurrence occurs despite previous TUR of the lesion, total cystectomy has been reported[5].

In our case, the patient was initially managed conservatively because she had extraperitoneal bladder perforation with no well-defined lesion in bladder. Three months later TUR of healed perforated margin was performed. Cystitis glandularis leading to bladder perforation has not been reported earlier. Pathologically, the lesion is confined to mucosa. In this case our assumption is that the cause of perforation could be multifactorial such as associated infection and irritation by tip of perurethral catheter. The clinical course of this patient requires long term surveillance. Since cystitis glandularis can progress to adenocarcinoma, annual surveillance, with cystoscopy and bladder biopsy is recommended[4].

CONCLUSION

Cystitis glandularis is not a rare disease but it being a cause of bladder perforation has not been reported in the literature earlier. It is also considered as a premalignant condition which predisposes to adenocarcinoma of the bladder. Patients are usually asymptomatic, however few patients may present with frequency, dysuria, urgency and hematuria due to chronic irritation. Transurethral resection (TUR) of lesion is the preferred treatment in most cases. Since cystitis glandularis can progress to adenocarcinoma, annual surveillance, with cystoscopy and bladder biopsy is recommended.

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CONFLICTS OF INTEREST

No authors have any conflicts of interest or financial ties to disclose.

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