



## Case Report

# Colovesical fistula secondary to hernia mesh migration: an unusual incident



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### ABSTRACT

We evaluated a 27-year old male with pneumaturia and fecaluria with a past history of right inguinal hernia repair. Though, cystoscopy and contrast enhanced computed tomography did not furnish any evidence to arrive at a diagnosis, interestingly, colonoscopy revealed a mesh in the sigmoid colon making apparent the diagnosis of colovesical fistula secondary to mesh migration. Later, surgical removal of the mesh from the sigmoid colon with rent closure of the fistulous opening was done successfully. Our case thus, highlights the vital role of common diagnostic tool like colonoscopy in making an uncommon diagnosis.

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### Fístula colovesical secundária à migração da malha para reparo de hérnia: um incidente incomum

### RESUMO

Avaliamos um homem de 27 anos com pneumaturia e fecalúria com antecedentes de reparo da hérnia inguinal direita. Embora a cistoscopia e a tomografia computadorizada com contraste (TCC) não tenham fornecido nenhuma evidência para obter-se um diagnóstico, curiosamente, a colonoscopia revelou uma malha no cólon sigmoide, estabelecendo o diagnóstico de fístula colovesical (FCV) secundária à migração da malha. Mais tarde, foi feita a remoção cirúrgica da malha do cólon sigmoide com fechamento da abertura fistulosa com sucesso. Nosso caso, portanto, destaca o papel vital de uma ferramenta diagnóstica comum, como a colonoscopia, para obter-se um diagnóstico incomum.

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#### Palavras-chave:

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Reparo de hérnia inguinal

Migração de rede

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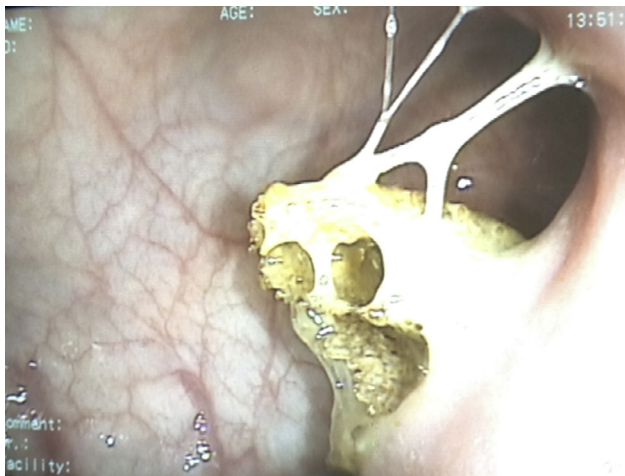
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## Introduction

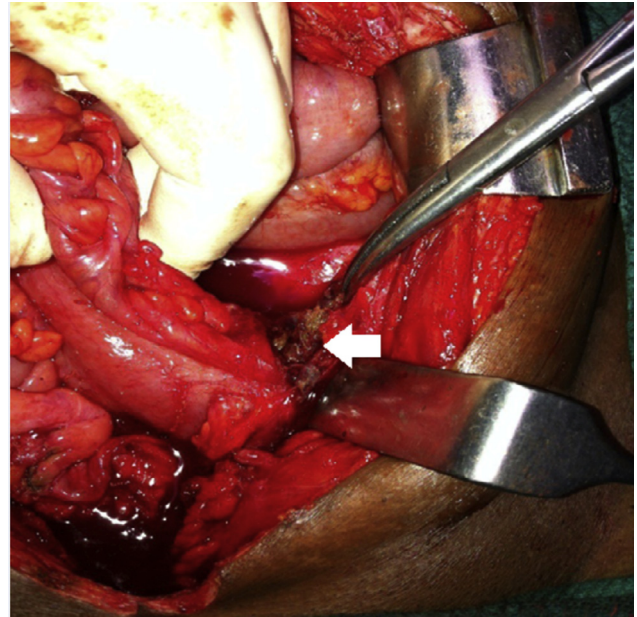
Enterovesical fistula is the existence of abnormal tract between the bowel and the bladder, with colovesical fistula (CVF) as its most common type. Diverticulitis is deemed as the commonest etiology accounting for about 65–79%.<sup>1</sup> CVF subsequent to mesh migration is an unusual incident, and is rarely reported in literature. We report a case of CVF secondary to mesh migration, following inguinal hernia repair.

## Case report

A 27-year-old gentleman presented with a 15 days history of fecaluria and pneumaturia with an increased frequency of about 20 times a day without diurnal variation. He also presented with a year history of recurrent episodes of fever with chills, dysuria, suprapubic pain and tenesmus. He revealed a past history of right-sided post poliomyelitis residual paralysis. Abdominal examination revealed tenderness in the left iliac fossa and digital rectal examination showed minimal tenderness with no other significant findings. Hemoglobin was 8.6 g% suggestive of anemia, while total leukocyte count and platelet count were normal with 9200 cells/c.mm and 1.47 lakh cells/c.mm respectively, whereas urine microscopy revealed plenty of pus cells with its culture growing *Escherichia coli*. All other laboratory investigations were normal. Ultrasound abdomen showed debris in the bladder while cystoscopy demonstrated a red glow with debris in addition to a bulbous edema observed at 7'o clock position. Contrast enhanced computed tomography (CECT) scan also failed to reveal any phenomenal finding. Interestingly, colonoscopy visualized a mesh in the sigmoid colon obscuring the lumen, thus preventing the scope to be passed beyond that level (Fig. 1). A normal mucosal and vascular pattern was seen up to that level. On further probing we elicited the past history of having undergone a laparoscopic right inguinal hernioplasty using inlay polypropylene mesh seven years back, which ushered us close to the plausible diagnosis of mesh migration.



**Fig. 1** – Colonoscopic picture showing mesh in the sigmoid colon.

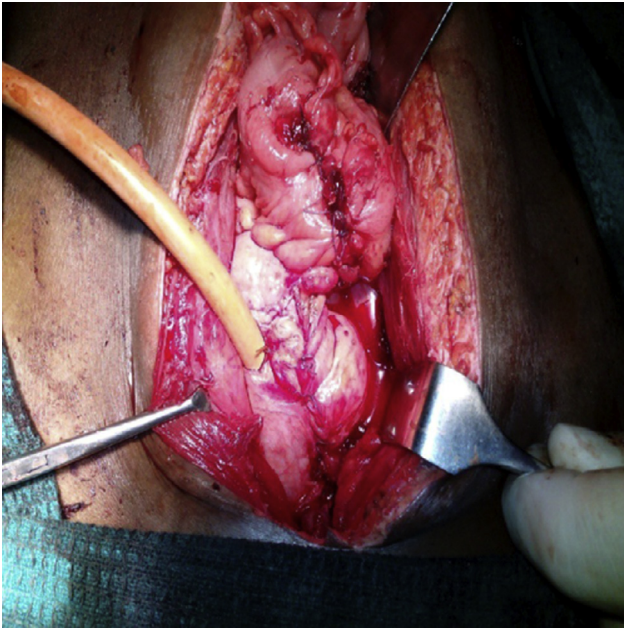


**Fig. 2** – The mesh eroding into the sigmoid colon and bladder.

Therefore, an exploratory laparotomy was planned. Under general anesthesia, a lower midline incision was made, wherein the intra-operative findings revealed the adherence of sigmoid loop and left anterolateral wall of bladder with that of the parietal wall at left inguinal region. Subsequently, sigmoid colon was mobilized with utmost care and opened in the anti-mesenteric border, transpired a polypropylene mesh of 11 × 7 cm with three tackers protruding into the lumen while the other end of the mesh found eroding the left anterolateral wall of bladder (Figs. 2 and 3). Shortly, the edges of the fistulous opening on the bladder were trimmed with rent closure done



**Fig. 3** – Extracted polypropylene mesh with three tackers.



**Fig. 4 – Post-op picture showing rent closure of the fistulous opening.**

in two layers with 28Fr malecot catheter (Fig. 4). Post-operative period was uneventful.

## Discussion

Laparoscopic inguinal hernia repair using mesh is known to reduce the recurrence of hernia by about 30–50% in comparison to open hernia repair.<sup>2</sup> Long term complications that frequently evinced with the use of mesh for hernia repair are recurrence and pain.<sup>3</sup> Agrawal and Avill<sup>4</sup> have inscribed two probable mechanisms of mesh migration leading to CVF; the eventuality of mesh displacement along an alley of low resistance being a consequence of inadequate fixation or any external displacing forces. Yet another probable explanation is secondary migration which occurs insidiously past the anatomic planes due to foreign body reaction mediated erosion, based on the nature of the mesh biomaterial used and the type of fixation of the mesh.

Poliomyelitis explicitly reduces the muscle tone potentially contributing to plausible occurrence of hernia in this patient.<sup>5</sup> Thus the third possible mechanism which can be ascribed in this particular case is weakness of bladder and colonic wall muscles leading to mesh migration and CVF.

CVF is esteemed as an unusual incident, with only three cases being reported in literature till date, of which two cases presented as a sequel of laparoscopic hernia repair and one subsequent to kugel mesh repair. So our report is the third case of CVF following laparoscopic hernia repair.

## Conclusion

CVF as a consequence of mesh repair, though a very rare presentation, can be easily be diagnosed in symptomatic patients presenting years after hernia repair if there is a high index of suspicion. This is the first case of mesh migration into sigmoid colon being diagnosed by colonoscopy, indicating the cardinal role of colonoscopy when the imaging modalities fail in suspected case of mesh migration into bowel.

## Conflicts of interest

The authors declare no conflicts of interest.

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