Colovesical fistula secondary to sigmoid colon carcinoma
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Section: Abdominal imaging
Case Type: Clinical Cases
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Patient: 75 years, female

Clinical History:
The occurrence of an enterovesical fistula is most commonly seen, secondary to diverticulitis. A colovesical fistula formation most frequently occurs between the sigmoid colon and the dome of the bladder. Plain films showing the presence of air within the urinary bladder provide supportive evidence. A definitive diagnosis is achieved with a CT scan, with the point of fistula formation often being demonstrated.

Imaging Findings:
A 75-year-old female presented with a 3-week history of dysuria, altered bowel habits and abdominal pain. She also had symptoms of weight loss and lethargy. A clinical examination was done, and it revealed a distended abdomen with increased bowel sounds throughout. No hernias could be detected clinically. An erect chest radiograph was taken, which demonstrated the presence of multiple metastatic lesions but no free air was found under the diaphragm. The abdominal radiograph demonstrated the presence of air within the bladder and the distended loops of the small bowel (Fig. 1). A CT scan of the abdomen and the pelvis was performed with an intravenous contrast. Fig. 2 clearly demonstrates the presence of air within the urinary bladder, which is indicative of a colovesical fistula. The point of the fistula can be most clearly identified on the sagittal image (Fig. 3). A small bowel obstruction is also clearly demonstrated. There is also a thickening of the sigmoid, consistent with an indication of sigmoid carcinoma (Fig. 4). Metastatic liver disease and chest metastases can also be identified (Fig. 5). As the patient represented a significant surgical risk, due to the possibility of an associated comorbidity, she was treated conservatively.

Discussion:
A colovesical fistula is the commonest form of a vesico-enteric fistula and is most frequently located between the sigmoid colon and the dome of the bladder. Diverticulitis accounts for 50%–70% of cases of vesico-enteric fistula, with malignancy, Crohn's disease, radiotherapy and trauma accounting for the remainder. Pneumaturia, faecaluria and recurrent urinary tract infections are the most common presenting symptoms. A cystoscopy has a sensitivity of 89% for the diagnosis of vesicocolic fistula and this is regarded as the first line investigation. A computed tomography scan has a sensitivity ranging between 40% and 100%. A barium enema is also useful, with a sensitivity of 20%–62.5%. In addition to documenting the fistula, a CT scan provides important intra-luminal and extra-luminal pathological findings, which are helpful for planning subsequent surgery. A CT scan should be included in the evaluation of patients with suspected vesicocolic fistula. The treatment of choice is primary resection of the colon with anastomosis, performed as a one stage procedure involving either a simple closure, use of an omental flap, or resection and closure of the bladder defect. In those not fit enough for surgery, supportive measures including the administration of intravenous antibiotics are the preferred option.
**Differential Diagnosis List:** Vesicocolic fistula secondary to sigmoid carcinoma.

**Final Diagnosis:** Vesicocolic fistula secondary to sigmoid carcinoma.

**References:**

Description: A coronal image demonstrating direct fistula formation between the sigmoid colon carcinoma and the urinary bladder. A dilated stomach and small bowel are also evident. Origin:
**Figure 2**

**Description:** An axial image demonstrating the fistulous tract between the urinary bladder and the sigmoid carcinoma. Distal small bowel dilatation is also evident. **Origin:**
Description: An axial image demonstrating liver metastasis and the presence of bilateral lung metastases. Origin:
Description: A plain abdominal radiograph demonstrating the presence of air within the urinary bladder and a dilated small bowel. Origin:
Description: A sagittal image demonstrating direct fistula formation between the urinary bladder and the sigmoid colon. Origin: