

# An unusual injury resulting in a jejuno-rectal stump fistula\*

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## Abstract

We report a case where anal intercourse resulted in a jejuno-rectal stump fistula. This occurred in a 70-year lady who had undergone formation of ileal conduit and end colostomy earlier in the same year. Previous gynaecological surgery for cancer of the cervix, radiation and multiple surgical procedures for dyspareunia, urinary incontinence and vesico-rectal fistula were factors responsible for a poor quality of life. Following an unsuccessful trial of conservative therapy with total parenteral nutrition (TPN) for the high-output fistula, a surgical procedure was planned. An injury to the jejunum adherent to the low rectal stump following previous surgery was identified to be the cause. Resection of a short segment of jejunum and anastomosis was performed at laparotomy. Histology of the specimen of jejunum revealed post-irradiation changes. The patient was discharged following uneventful postoperative recovery. There are no reported instances of such injury resulting in a fistula.

## Keywords

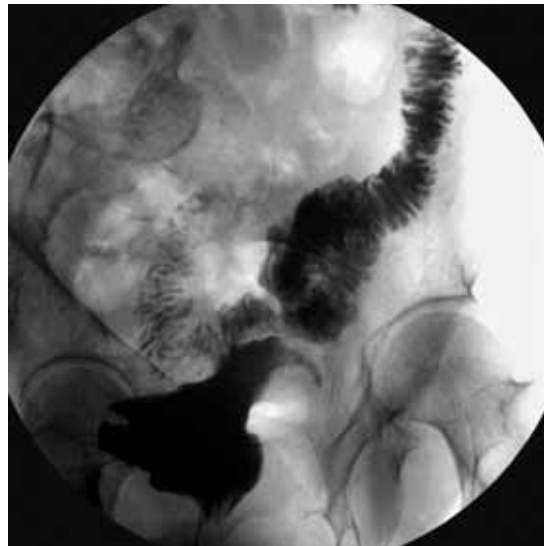
Anal intercourse; fistula; injury.

## Case report

We report the case of a 72-year-old patient who developed a jejuno-rectal stump fistula following anal intercourse. This occurred 6 months after end colostomy and ileal conduit formation for a vesico-rectal fistula. A complex history of events and surgical procedures are described to help appreciate the injury and its subsequent management.

In 1967 (aged 35 years) the patient was diagnosed with cervical carcinoma. Treatment comprised radical hysterectomy with adjuvant preoperative and postoperative radiotherapy. However, this treatment was complicated by iatrogenic sequelae. In the first instance the patient developed a vaginal stricture, which was associated with intense dyspareunia. Two attempts at vaginoplasty were unsuccessful. In addition, increasing urinary incontinence supervened. A series of investigations attributed this to a combination of diminished bladder capacity and a 'neurogenic' bladder. Numerous surgical procedures including bladder dilatation were attempted without success. Ultimately in 1976, bladder denervation was performed. Even this measure failed to alleviate symptoms and furthermore a vesico-rectal fistula was diagnosed during the postoperative

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**Fig. 1.** A rectal water soluble contrast study demonstrating direct communication between the rectal stump and small bowel.

period. Episodes of watery diarrhoea were however minimal and the patient opted for no further operative intervention at that time.

Despite mild deterioration of left kidney function and ongoing symptoms over an extended period, the patient declined surgery until symptoms deteriorated in 2002.

In November 2002, a combined urological and colorectal procedure was performed. At that time a large fistula was observed between the bladder and the mid-rectum. In addition, the small volume bladder was filled with a large calculus. Following excision of the fistula, only 4 cm of rectal stump remained. The unhealthy rectal stump and history of previous irradiation ruled out the possibility of anastomosis. End colostomy and ileal conduit were fashioned. Recovery was uneventful and quality of life subsequently improved significantly.

Six months following surgery, the patient requested an urgent consultation. Three days previously, the patient's colostomy had ceased functioning after an episode of anal intercourse. She had simultaneously started to pass bilious fluid per anus. Abdominal examination was unremarkable but digital rectal examination detected a breach of the rectal stump staple line.

A contrast enema outlined the rectal stump and small bowel indicating a recto-enteric fistula (Fig. 1). CT scans revealed contrast within the rectum. An air-contrast collection was visualised anterior to the rectum. In order to determine the level of the fistula a small bowel barium study was performed. This revealed a large communication between the rectum and mid-jejunum with contrast filling the rectal stump within 5 min (Fig. 2) of ingestion. Delayed images demonstrated a cavity anterior to the rectum that emptied on defecation.

As the injury was considered traumatic in origin and there was no evidence of distal bowel obstruction that would perpetuate the fistula, a trial of inpatient conservative management was attempted. This included total parenteral nutrition (TPN) to replace the severe electrolyte and nutritional losses incurred by the 'high-output' fistula. Unfortunately, these measures failed to significantly reduce fistula output but they did yield significant nutritional benefit to the patient. The TPN was consequently continued for a period of 3 months in order to optimise the patient for possible surgery. Long-term TPN was also considered but, during that period, bouts of electrolyte and renal instability suggested that its success was unlikely. Under these circumstances further surgery was planned.

At laparotomy a large jejuno-rectal stump fistula was confirmed. The bladder remnant proved to be the cavity anterior to the rectum, which had been noticed to empty with defecation. The jejunum was detached from the rectal stump and an end-to-end anastomosis was performed following resection of a short segment of jejunum. The rectal stump and bladder were partially closed and a large omental plug was used to complete closure with omentum filling the pelvis. Histology of the specimen of jejunum revealed post-irradiation changes only.

Postoperative recovery was smooth and the patient was able to tolerate a normal diet by the 4th postoperative day. Pre-operative acid-base and electrolyte imbalance resolved and the patient was discharged home 3 weeks later. The patient is being regularly followed up and although some



**Fig. 2.** An oral water-soluble contrast study demonstrating direct communication between a mid jejunal loop and the rectal stump. Residual contrast is present within right-sided abdominal bowel loops.

episodes of mucoid discharge per rectum have been reported, there has been a marked clinical improvement associated with a better quality of life.

## Discussion

There are many reported cases in the medical literature of rectal or sigmoid colon injury following penetrating<sup>[1-3]</sup> and suction injuries<sup>[4, 5]</sup>. To date, however, there are no reported publications in the English language of entero-rectal stump fistula development following anal intercourse.

Our case report involves a 72-year-old female patient, with a prior history of pelvic surgery and irradiation for cervical carcinoma, who developed a jejuno-rectal stump fistula following anal intercourse. Injury to a jejunal loop adherent to the short rectal stump during anal intercourse was considered the probable mechanism for the fistula formation.

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