

# RECTOVAGINAL FISTULAE FOLLOWING RADIATION TREATMENT FOR CERVICAL CARCINOMA

by

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DESPITE advances in radiation technology it is still not possible to prevent serious gastrointestinal or genitourinary complications after radiotherapy. The reported incidence of gastrointestinal complications following pelvic irradiation ranges from two to 17 per cent.<sup>1, 2, 3</sup> Although rectovaginal fistulae account for less than two per cent of these complications,<sup>4</sup> they may present a particularly difficult surgical problem from a diagnostic and therapeutic point of view. Five consecutive patients are described to illustrate some of the problems associated with their initial assessment and management.

## CASE REPORTS

Between October 1981 and March 1982, five patients with previously treated squamous carcinoma of the cervix were admitted with rectovaginal fistulae. A brief summary of these patients is given in the Table. The external radiation was given in fractionated doses (20 exposures) over four weeks and the intra-cavity radium dose was given over a period of 60 hours in all cases. The total radiation dose ranged from 8020 to 8420 rads. Two patients (Cases 1 and 3) also had an abdominal hysterectomy and bilateral salpingo-oophorectomy, two and one month after irradiation respectively.

TABLE

*Summary of five cases of rectovaginal fistulae*

<i>Case</i>	<i>Age</i>	<i>Stage</i>	<i>Time Interval XRT to Fistula</i>	<i>Type of Colostomy</i>	<i>Outcome and Duration</i>
1	31	II	8 months	divided trans loop	Well, 13 months
2	46	IIB	11 months	transverse loop	Died, 2 months
3	44	IB	6 months	divided trans loop	Died, 2 months
4	55	IIB	11 months	transverse loop	Died, 3 months
5	64	IIA	18 months	sigmoid end (Hartmann op)	Well, 8 months

Age: at time of diagnosis of Ca cervix.

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The original presentation of Case 1 was unusual in that the patient was pregnant at the time of diagnosis. A Caesarian section was carried out at 32 weeks and because the tumour was bleeding heavily; external radiation was started immediately. Examination under anaesthesia after four weeks revealed no extension of the disease into the parametrium. It was felt retrospectively that she had a Stage II lesion.

The average time interval between completion of radiotherapy and the development of the fistula was 10.8 months (range 6-18 months). Four of the fistulae occurred between 8 and 10 cm from the anal verge and the fifth (Case 5) developed 3 cm from the anus.

Recurrent tumour was present in patients 2 and 3. In Case 2 biopsies from the cervix and the edge of rectovaginal fistula both showed recurrent squamous carcinoma, although at the time of examination under anaesthesia the surgeon believed that no tumour was present. Case 3 showed no evidence of recurrent tumour in biopsies from the rectovaginal fistula but two months later when a large vesico-vaginal fistula developed, tumour nodules could be palpated on the pelvic side walls.

All five patients were treated with colostomies. Two had transverse loop colostomies fashioned over a skin bridge. A further two had divided transverse colostomies, with separation of proximal and distal colonic stoma. The fifth patient had a sigmoid end colostomy fashioned in the left iliac fossa with closure of the rectal stump.

Three patients died within three months of formation of their colostomy (Case 2, 3 and 4). Case 2 developed a malignant vesico-vaginal fistula one month after colostomy formation. An intravenous urogram showed only minimal function of the left kidney with a mass invading the left side of the bladder which was confirmed at cystoscopy to be necrotic recurrent tumour. This patient died four weeks later. Case 3 developed a vesico-vaginal fistula and acute renal failure two months after her colostomy formation. Ultrasound scan revealed marked dilatation of the pelvicalyceal system but at cystoscopy no recognisable bladder could be visualised. Tumour nodules could be easily palpated at the side walls of the pelvis. No further treatment was undertaken and the patient died six days later. This woman had also been troubled with prolapse of the colostomy. Case 4 was admitted to another hospital ten weeks after colostomy formation. She was bleeding per vaginam, and responded initially to blood transfusion but rapidly deteriorated two weeks after admission and died. Post-mortem examination was not carried out.

Cases 1 and 5 have remained well since their colostomies were fashioned. Both patients pass some mucus per rectum and per vaginam occasionally.

## DISCUSSION

The discomfort and distress associated with the uncontrolled discharge of flatus and faeces per vaginam in a woman with a post-irradiation rectovaginal fistula demands urgent treatment. Most authors recommend an initial colostomy because it is easier for the patient to manage than the fistula.<sup>5, 6</sup> The type and siting of the colostomy are important and depend on whether residual or recurrent tumour is present. This is sometimes difficult to determine with certainty because radiation fibrosis and necrosis can closely simulate carcinoma. We believe, however, that this

is vital to the initial management of these unfortunate patients so that the most appropriate colostomy can be fashioned. In Case 2 the surgeon carrying out the initial assessment felt at examination that no tumour was present. Routine paraffin sectioning, however, showed recurrent invasive squamous carcinoma. In retrospect it would have been more appropriate to have fashioned an end sigmoid colostomy. Intravenous urography and cystoscopy at the time of initial assessment of this patient might have shown the vesical extension of the tumour, which became apparent one month later.

Prior to the establishment of a colostomy in these patients we believe that full assessment including intravenous urography, cystoscopy, sigmoidoscopy and vaginal examination under anaesthesia with frozen section biopsy should be undertaken, involving surgeon, gynaecologist and not infrequently the urologist. If recurrent or residual tumour is found an end sigmoid colostomy with closure of the distal stump seems the most appropriate form of initial treatment. The permanent end colostomy in the left iliac fossa is easiest for the patient to manage, the motions are formed and colostomy prolapse is less likely to occur than with a transverse colon colostomy.

When the patient is found to be free of tumour then a colostomy fashioned in the proximal transverse colon is needed in the majority of cases. The function of this colostomy is to reduce the contamination caused by faecal bacteria and to eliminate the physical trauma of the passage of faeces. Defunction using a simple loop colostomy may be incomplete because of the proximity of the two stomas and we believe that in the peculiar situation of radiation damaged bowel, defunction must be complete. A modified Devine (divided transverse loop) colostomy with a skin bridge separating the two stomas will completely defunction the distal colon and rectum.<sup>7</sup> Irradiation damage usually extends well beyond the visibly damaged area and when the fistula is large and low in the rectum, an end sigmoid colostomy, as was used in Case 5 in the present series, may be the most appropriate initial treatment. Faecal diversion does not always prevent progression of radionecrosis and the surgeon may have to undertake further surgical intervention earlier than the recommended 9-12 months after colostomy formation.<sup>8</sup>

## SUMMARY

Five patients with rectovaginal fistulae following radiation treatment for carcinoma of the cervix are presented. Before the initial colostomy is fashioned it is vital to determine whether residual or recurrent tumour is present as this has a direct bearing on where the colostomy is sited. In the presence of tumour an end sigmoid colostomy is the most appropriate while in the absence of tumour a divided proximal transverse colostomy should be undertaken in the majority.

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