Adenocarcinoma of a Colostomy Following Abdominoperineal Resection for Squamous Cell Carcinoma of the Anal Canal: A Case Study


Abstract
Malignant neoplasms presenting on a stoma, as well as the development of colorectal adenocarcinoma after previous treatment for squamous cell carcinoma (SCC) of the anal canal, are rare. The unique case is presented of an 81-year-old woman with parastomal bleeding and ulceration found to have a primary colorectal adenocarcinoma arising de novo on a colostomy, formed after salvage abdominoperineal resection (APER) 3 years earlier for recurrent anal SCC. This is the first reported case of a colonic adenocarcinoma on a colostomy formed after an APER for anal SCC. Although stomal neoplasia is rare, the appearance of a friable bleeding lesion on the stoma should be investigated to exclude metastatic cancer or a second primary malignancy.

Key Words: case study, stoma, colorectal adenocarcinoma, parastomal bleeding

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Potential Conflicts of Interest: none disclosed
Two years after the APER, Ms. V developed small bowel obstruction from a parastomal hernia and underwent a laparotomy and a resiting of the colostomy to the right iliac fossa (from the left iliac fossa) and repair of the hernia. Eight months later, she presented to her Stoma Nurse Specialist (who referred her to the authors’ facility) with a 1-month history of parastomal ulceration and bleeding from her colostomy. Results of a flexible sigmoidoscopy, performed just before the APER, were normal and other than the anal canal SCC, showed only diverticulosis. Examination of the stoma revealed an irregular 2-cm ulcerated lesion on the superior margin of the stoma. Biopsies confirmed a moderately differentiated adenocarcinoma with no evidence of metastatic disease on cross-sectional imaging; colonoscopic assessment of the remaining colon was normal. Due to Ms. V’s frailty, a limited excision of the stoma and peristomal skin was performed under general anesthesia. She had an uneventful postoperative recovery, requiring routine stoma care. The revised colostomy functioned normally on postoperative day 2. Histology of the resected specimen confirmed complete excision of a pT3N1M0 colonic adenocarcinoma (ie, the tumor had invaded into, but not through, the outermost layer of the colon, with nodal metastases present, but with no evidence of distant metastases). There was no evidence of pre-existing adenoma (see Figure 1). Adjuvant chemotherapy was not offered because of her frailty, but 8 months post procedure Ms. V remains well with no signs of recurrence of either cancer.

Discussion

Synchronous colorectal adenocarcinomas have an approximately 5% reported incidence; the risk of metachronous cancers is about 3%. The US National Cancer database reports that overall almost one in primary cancers are, in fact, second cancers; Swedish data suggest a slightly lower incidence of 8.5% with a strong association between anal canal SCC and subsequent second cancers. Lung and cervical carcinomas are particularly common after anal SCC, presumably reflecting the shared etiological risks of smoking and HPV infection. No association between anal SCC and subsequent colonic adenocarcinoma has been demonstrated. Only three previous cases of anal SCC and colonic adenocarcinoma have been reported, all of which were synchronous lesions. Post-mortem and screening colonoscopy studies estimate the prevalence of colonic adenomas in the general population to be up to 40% at age 60 years. In a cross-sectional study, colonic evaluation of 68 patients with anal SCC revealed only eight adenomas in eight individuals and a similar study reported an adenomatous polyt rate of 7% in a cohort of 58 anal SCC patients.

Stomal malignancy in an ileostomy is reported to be more common than terminal ileal adenocarcinoma in an in situ small bowel; this usually occurs after panproctocolectomy for either inflammatory bowel disease or familial adenomatous polyposis. It is still uncommon; only 45 cases of primary ileostomy adenocarcinoma have been reported since the first case was described in 1969. Three cases of SCC and two lymphomas also have been reported. Colostomy malignancy is less commonly described — only 11 other cases of colorectal malignancy presenting on an existing colostomy are described in the literature. Of these 11, only one occurred within 5 years of original rectal resection and thus all 11 cases are likely to represent true second primary (metachronous) cancers rather than metastases from the original tumor. Single cases of basal cell carcinoma, leiomyosarcoma, and a Desmoid tumor arising at colostomies formed after rectal carcinoma resection also have been reported.

The etiology of stomal neoplasms is unclear but prolonged bile acid contact in the stool within the stoma bag or repeated mechanical trauma from repeated application of the stomal appliance have been suggested as relevant. If either of those theories is true, the risk of neoplasia increases over time and, considering the high numbers of stomas created each year (10,952 abdominoperineal or Hartmanns resections of rectal cancer were performed over a 6-year period in England alone), more stomal malignancies can be expected.
The patient in the case reported here received pelvic and perineal radiotherapy as her initial treatment for an anal SCC. It is possible the colonic segment subsequently used to form her end colostomy was included in the radiotherapy field, raising the possibility her second cancer was a late effect of her first treatment, especially in light of the fact she had a clear left-sided colon 32 months earlier and her adenocarcinoma developed de novo without pre-existing adenoma formation. Most of the data for secondary cancers after irradiation come from childhood populations, but there appears to be only a slight increase in risk. Retrospective analysis of more than 20,000 cases of rectal cancer showed no increased risk of subsequent secondary primary cancers with previous pelvic irradiation.

Once they are competent to manage their own stoma, most patients will not have their stoma examined by their clinician unless problems occur. Reports of stomal bleeding, peristomal growths or ulceration, or difficulty fitting the stoma appliance should prompt a close inspection of the uncovered stoma. Educating the patient to ensure prompt assessment if the above signs and symptoms occur is key; early recognition of a stomal malignancy, as with all cancer, will improve outcome. Optimal treatment is by en bloc resection of the stoma, mesentery, and surrounding abdominal wall, with resiting of the colostomy; however, considering the general frailty and age of many of these patients, they may be better served by a local resection.

Conclusion

This is the first reported case of a colonic adenocarcinoma on a colostomy almost 3 years following an APER for anal SCC. The stomal lesion arose de novo without adenomatous change and may have been related to the patient’s previous radiotherapy. No association was noted between anal SCC and the subsequent development of a colorectal adenocarcinoma in colostomy after abdominoperineal resection for rectal carcinoma. The stomal lesion arose on a colostomy almost 3 years following an APER for anal SCC. The stomal lesion arose on a colostomy almost 3 years following an APER for anal SCC.

References