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Case reports

Cancer in the anal canal (transitional zone) after restorative proctocolectomy with stapled ileal pouch-anal anastomosis

R. Sequens

Department of Surgery, University Hospital in Pilsen, Czech Republic

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Abstract. The first case of an adenocarcinoma developing in the retained anal canal mucosa (transitional zone) after restorative proctocolectomy with a stapled ileal pouch anal anastomosis is presented. The cancer was detected during routine follow-up 16 months after pouch formation for long standing ulcerative colitis, complicated by a cancer in the upper rectum. The patient was treated with an abdominoperineal excision of the ileal pouch and anus.

Résumé. Nous rapportons le premier cas d'adénocarcinome se développant à partir de la muqueuse résiduelle du canal anal (zone transitionelle) après une procto-colectomie avec rétablissement de la continuité iléo-anale par agrafage. Le cancer a été détecté lors d'un contrôle de routine 16 mois après confection de la poche chez un patient atteint d'une colite ulcéreuse évoluant depuis de longues années et compliquées par un cancer de la partie supérieure du rectum. Le patient a été traité par une excision abdomino-périnéale de la poche iléale et de l'anus.

Restorative proctocolectomy (RP) is the procedure of choice for most patients with ulcerative colitis (UC). Parks original description of the technique in 1978 [1] included an anal mucosectomy but many surgeons now preserve the anal canal mucosa (including the anal transitional zone) to optimise the functional results [2–5]. Currently a double staple ileal pouch-anal anastomosis (IPAA) preserving the anal canal mucosa is the standard procedure for most cases. This technique is favoured as it is simpler than a handsewn IPAA with mucosectomy and it avoids anal canal manipulation which in combination with preserving the anal canal mucosa aids the finer control of continence [6–8]. On the other hand this technique does retain a small amount of diseased colonic mucosa, with the potential for dysplastic or neoplastic change [9–12]. Only four cases of adenocarcinoma developing in the ileal pouch have been reported. These cancers have arisen from residual islets of anorectal mucosa after proctocolectomy with mucosectomy [13–16]. This is the first report of adenocarcinoma developing after preservation of the anal canal mucosa with RP.

Correspondence to: R. Sequens, Department of Surgery, University Hospital, Dr. E Benese 13, 30599 Pilsen, Czech Republic

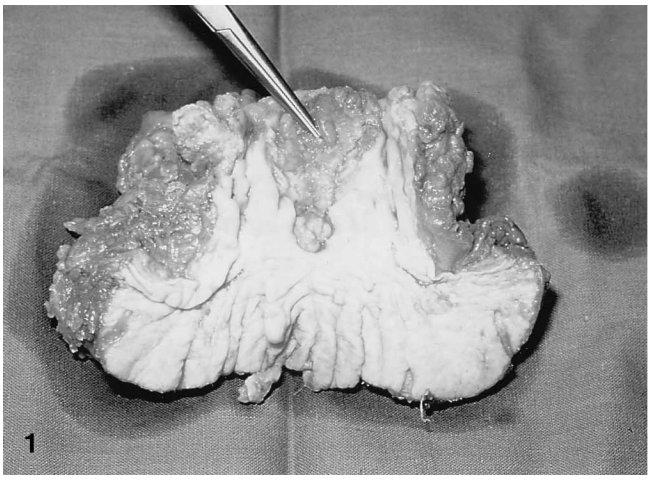
Report of a case

In April 1993, a 54 year old woman, with UC for nine years, was referred to our department with a cancer in the upper rectum at 12 cm diagnosed on surveillance biopsies. Preoperative staging confirmed a localised cancer and a RP with stapled IPAA was performed. Because of concerns about the integrity of the sphincter the anal canal mucosa was preserved to optimise the functional result. A stapled IPAA with a transabdominal distal purse string suture was used to anastomose a 20 cm J pouch to the top of the anal canal. The proctocolectomy specimen revealed a 2×2 cm T2 N0 moderately differentiated adenocarcinoma arising in a tubulovillous adenoma. After closure of the covering ileostomy the patient progressed well and was fully continent.

In April 1994 a follow-up endoscopy was undertaken and a small polypoid lesion was found in the anal canal below the IPAA. The biopsy revealed high grade dysplasia. Three months later an examination under anaesthesia was carried out and a full thickness biopsy taken. This showed a well differentiated adenocarcinoma. There were no signs of local or distant spread of the disease and an abdominoperineal excision of the pouch and anus was performed. The specimen confirmed a 3.5×2 cm T1 well differentiated adenocarcinoma with the upper extent of the tumour being 1 cm below the IPAA (Figs. 1–2). At seventeen months after abdominoperineal resection the patient is doing well with no evidence of recurrent disease.

Discussion

The aim of mucosectomy is to eradicate the disease and prevent the subsequent neoplastic changes in retained colonic mucosa. However, complete excision cannot be reliably achieved and residual islets of colonic mucosa appear in up to 20% of excised pouches despite mucosectomy [17, 18]. These findings and the functional advan-



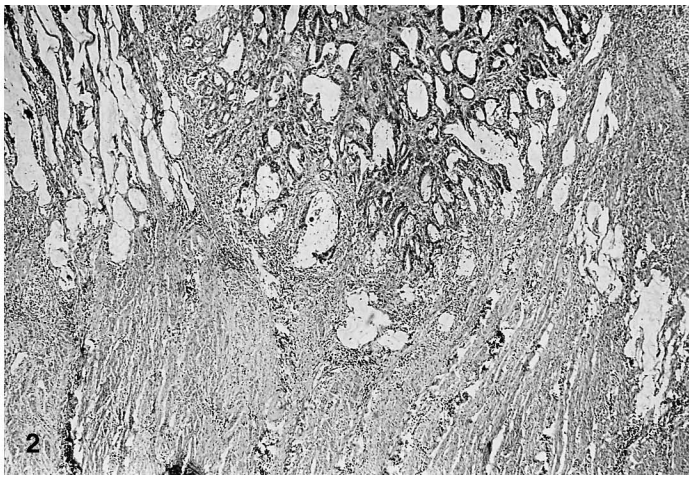


Fig. 1. Excised anal canal with adenocarcinoma

Fig. 2. Mucinous tubular adenocarcinoma (top) infiltrating muscularis propria (bottom). ×36

tage gained by avoiding mucosectomy support the use of stapling technique which however requires regular surveillance biopsies of the anal canal mucosa. Although this technique is suitable for most patients there is a group who should be considered for mucosectomy because of a higher risk of malignancy in the anal canal mucosa. An association has been described between developing dysplasia in the retained anal canal mucosa after RP and the presence of dysplasia elsewhere in the excised colon or rectum. Because of this and the fact that dysplasia is predictive of future cancer, mucosectomy is recommended for UC patients with a preoperative diagnosis of high grade dysplasia or cancer. If these findings are not revealed until after histological examination of the proctocolectomy specimen more frequent follow up with biopsies of the retained anal canal mucosa is recommended [9]. In this case although the original cancer arose in an adenoma there was no sign of this in the anal cancer and the latter cancer did not involve the IPAA which probably rules out seeding from the original cancer.

All UC patients, with a known neoplastic change in the colon or rectum, should have preoperative biopsies of the columnar mucosa in the anal canal and the lower rectum to ensure safety if preserving the anal canal mucosa is being considered for cases where there is concern about compromising function with a mucosectomy. If mucosectomy is not done these biopsies are essential as a base line for further follow up and also for learning more about the changes in the anal canal mucosa over time following RP.

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