

## Case Reports

# Implantational Growth of Adenocarcinoma After Kraske Operation for Rectal Tubular Adenoma

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**Summary.** A 55-year-old man underwent an operation for a rectal tubular adenoma 1.5 cm in diameter by posterior proctotomy (Kraske operation). Later two rectal tubular adenomas were excised by electrocoagulation. Eight years after the primary operation, a  $12 \times 8 \times 5$  cm large mucinous adenocarcinoma was discovered inside the gluteus maximus muscle extending under the subcutaneous region of the primary incisional scar. No other metastases could be detected. It is probable that implantation of malignant or potentially malignant cells during the first operation was responsible for the adenocarcinoma.

**Key words:** Neoplasm metastasis – Rectal neoplasms – Adenoma.

## Introduction

The incidence of carcinomatous change of rectal tubular adenomas varies between 2 and 4% (Enterline et al., 1962; Kaneko, 1972). Local removal without regional lymphadenectomy of pedunculated colorectal tubular adenomas having carcinoma in lamina propria is adequate treatment (Okike et al., 1977). Posterior proctotomy – the Kraske approach – is an operation which can give sufficient access for excision of quite large rectal tumors (Wilson and Gordon, 1969). We report a case showing how implantation of cells from a rectal tubular adenoma may have led to adenocarcinoma in the operation track eight years after Kraske operation.

## Case Report

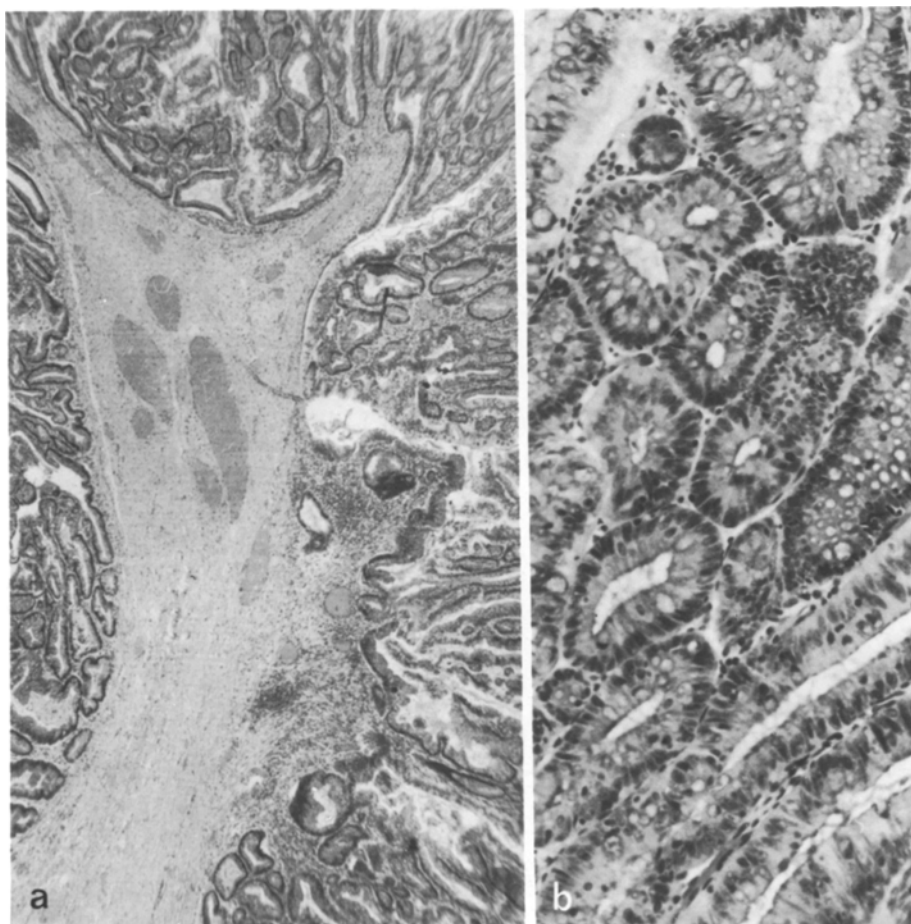
A 55-year-old man was admitted for proctological examination on account of mucous evacuation and recurrent positive benzidine tests.

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On sigmoidoscopy a villous-looking tumor of the mucous membrane was found on the anterior rectal wall 11 cm from the anal margin. The tumor appeared also in the barium enema examination but no other growth could be seen. The patient was in perfect physical condition and no metabolic change could be discovered.

Posterior proctotomy was performed. The incision was carried out in the left lateral position after good mechanical emptying of the intestine. The tumor was excised without difficulty. During the operation a second more distal adenoma was discovered. It could not be reached but was excised three weeks later with an electric sling.

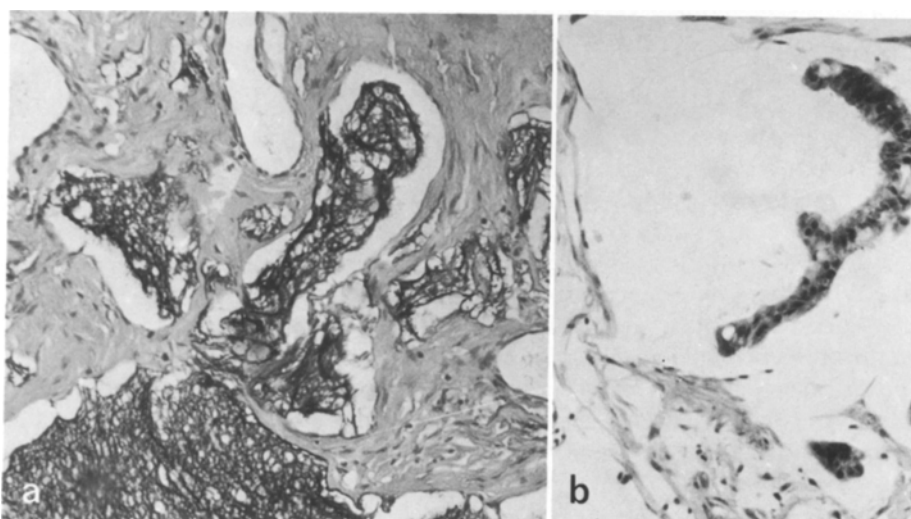
The first tumor was pedunculated, with a maximum diameter of 1.5 cm. Histologically a tubular adenoma was seen without carcinomatous infiltration of the stalk (Fig. 1a). The epithelial cells showed moderate variation of nuclear size, hyperchromasia, mitoses and loss of nuclear polarity and stratification (Fig. 1b). The second tumor was 0.5 cm in diameter. Microscopically it was a tubular adenoma with the same degree of atypia as the first adenoma.



**Fig. 1.** a In the Kraske excised tubular adenoma no sign of invasion across the muscularis mucosae into the stalk can be seen. Haematoxylin and eosin.  $\times 30$ . b The tubular adenoma shows moderate cellular atypia with loss of nuclear polarity and stratification of the lining epithelial cells. Haematoxylin and eosin.  $\times 200$



**Fig. 2.** The resected tumor is situated within the confines of the gluteus maximus muscle extending just underneath the fascia at the site of primary excisional scar



**Fig. 3.** **a** The resected tumor shows carcinomatous invasion with mucinous cyst formation in a fibrous stroma. Alcian-blue-PAS.  $\times 130$ . **b** In the mucinous lakes scattered carcinoma cells can be seen, corresponding to a mucinous adenocarcinoma. van Gieson.  $\times 200$

The proctotomy wound healed and the patient was discharged. On a subsequent examination six months later a recurrent polyp was found at the suture line of the earlier excision. A peranal removal of the recurrence was carried out by electro-excision. Histologically it showed a tubular adenoma with the same degree of atypia as the two foregoing adenomas.

Thereafter the patient was sigmoidoscoped every 6 months for two years and then annually.

Five years after the initial operation a barium enema examination was made; it was normal. At the patient's request the annual follow-up visits were still continued.

Eight years after the primary operation sigmoidoscopy was still negative but a swelling in the right gluteal region was discovered. A biopsy showed a mucinous adenocarcinoma. X-ray examination of colon, rectum, pelvis and chest were normal as was the technetium scan of the liver. Wide excision of the tumor was performed which required total ablation of the gluteus maximus muscle. The posterior surface of the sacrum as well as the posterior rectal wall were exposed but no tumor tissue was found. After tumor resection a reconstruction with rotational skin flap was carried out. Recovery was uneventful.

Examination of the specimen revealed that the tumor was chiefly located in the gluteus maximus muscle, extending up to its fascia under the subcutaneous region of the primary incisional scar (Fig. 2). The tumor was  $12 \times 8 \times 5$  cm in size. It was macroscopically cystic and contained a considerable amount of mucous material. Light microscopy showed alcian blue (pH 1 and 2.5), periodic acid-Schiff (PAS) and high iron diamine positive mucosubstances together with chains of well differentiated carcinoma cells (Fig. 3a and b) consistent with a diagnosis of mucinous adenocarcinoma. Biopsy taken near the rectal wall showed only fibrous tissue. Serial sections were made from the three operated adenomas but no carcinomatous areas were discovered.

## Discussion

A known fact is that malignant cells or cell clusters may spread along a needle biopsy track. Engzell et al. (1971) have found 8 cases described in the literature dealing with tumor cell dissemination in this way. However, when the type of needle was specified in these reports, it was of relatively large calibre. When using fine-needle (18 to 22-gauge) aspiration biopsy technique, Zajicek (1974) could not find any reports in the literature of tumor extension.

Radical surgery, on the other hand, usually implies a real risk of tumor grafting. The interesting point in our case is that all the resected adenomas were of tubular type without any sign of carcinoma even after serial sections made later from the paraffin embedded material. However, of the tubular adenomas 2 to 4% contain cancer tissue when they are first detected (Kaneko, 1972). The cancer area may have been missed during routine histological processing of the present tubular adenoma. But even with carcinoma in the lamina propria of the adenoma, local removal should be adequate treatment (Okike et al., 1977). The histochemical reactions of the mucinous adenocarcinoma also points to gastrointestinal origin. Neutral, acid non-sulphated, and sulphated mucosubstances were found in the carcinoma which are also known to be present in the normal adult rectal mucosa (Filipe and Dawson, 1970).

The present case shows that scrupulous wound protection is important at removal of benign rectal or colonic neoplasms.

## References

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