Short reports

Adenocarcinoma of the anal glands

W M H Behan, R A Burnett

Abstract

Adenocarcinoma of the anal glands is very rare but it is an important lesion to recognise as with early diagnosis, it has an excellent prognosis. Because it involves the submucosa widely and penetrates the mucosa late, it can be mistaken for metastatic gastrointestinal carcinoma, or tumour arising in sinuses and fistulae. Two cases, in a 44 year old man and a 73 year old woman, which illustrate the typical features are reported, in one of which the diagnosis was missed originally. In situ neoplastic change of the associated anal glands and secretion of mucin lacking O-acetyl groups are useful pointers.

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Keywords: adenocarcinoma, anal glands.

Adenocarcinoma of the anal glands is extremely rare¹⁻³ but it is a cause of diagnostic confusion. It infiltrates deeply beneath the submucosa and can be misdiagnosed as a metastatic tumour, or carcinoma arising in a sinus or fistula. As it has a good prognosis with early diagnosis—that is, 93% survival at five years or more,⁴ it is important to make the distinction.

Case reports

CASE 1

A 44 year old man presented with what appeared to be locally advanced rectal cancer. He had a typical history of altered bowel habit, rectal bleeding and early symptoms of intestinal obstruction. At surgery, he was found to have a large mass in the pelvis and widespread peritoneal disease. Resection was not possible; the mass was biopsied and a loop colostomy carried out. The biopsy specimens revealed only oedematous rectal mucosa but the patient went on to have 20 pulses of intensive chemotherapy. Various scans failed to show any further evidence of disease. He then had a laparotomy, at which time it was thought that he had undergone a complete response as, although there was one small omental deposit, no peritoneal seedings were seen. His primary tumour was resected and a loop ileostomy instituted to protect the operative site. Two months later, when this was closed, peritoneal deposits were noted. He had a further course of

chemotherapy and has remained well over the ensuing 10 months.

CASE 2

A 73 year old woman presented with one episode of rectal bleeding and difficult defaecation. Rectal examination revealed a tumour mass, just inside the inner margin of the rectum, which did not feel fixed. Biopsy was extremely painful: it was abandoned on the first occasion but carried out later under general anaesthesia. The patient underwent an abdominoperineal resection and, after the operation, has remained well for 18 months.

Histology

CASE 1

The surgical specimen consisted of rectum, anus, a piece of omentum, and bowel resection rings. The rectum consisted of a 250 mm length of bowel, with anorectal canal and anus surrounded by skin distally and a colostomy stoma with surrounding skin 100 mm in diameter proximally. On opening the specimen, the mucosa appeared normal. Multiple histological sections of the rectum confirmed that the mucosa was normal but revealed extensive infiltration of the muscle coats by adenocarcinoma consisting of cuboidal glandular cells arranged in small, regular acini. Neither the pattern of infiltration nor the appearance of the tumour acini looked like primary large bowel carcinoma. A diagnosis of metastatic adenocarcinoma was made. No tumour was present in the pericolic fatty tissue or within the single lymph node identified. Two months later, at laparotomy, an omental nodule containing adenocarcinoma was removed. The original sections were reviewed and the unusual appearance and distribution of the tumour was recognised. Further blocks were taken of the original specimen, at the anorectal junction. These revealed a small focus of severe dysplasia in the anal glands in the transitional zone (fig 1), adjacent to the anal squamous epithelium and near normal rectal glands (fig 2). Staining⁵ revealed that the tumour cells were producing mucin which was O-acetylation negative.

CASE 2

The anus, rectum and sigmoid colon were 270 mm in length. At the dentate line, 20 mm from the anal verge, there was a superficial, firm,

Glasgow University
Department of
Pathology, Western
Infirmary,
Glasgow G11 6NT

Correspondence to:
Dr W M H Behan.

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Figure 1 Case 1. Anal glands, opening into squamous epithelium and showing severe dysplasia. Haematoxylin and eosin; original magnification $\times 40$.

Figure 2 Case 1. A dysplastic anal gland and a normal rectal gland are seen, beneath squamous epithelium at the transitional zone. Haematoxylin and eosin; original magnification $\times 200$.

roughened area 25 $\times$ 20 mm in diameter. Microscopy revealed a well differentiated adenocarcinoma composed of small glands lined by columnar cells with large basal nuclei, prominent nucleoli and a little mucin, infiltrating through the bowel wall to involve the lateral resection margin. A single dysplastic surface anal gland was identified in the transitional zone. The features of this gland appeared simi-

lar to that in the carcinomatous infiltrate. In both, staining revealed mucin which was O-acetylation negative.⁴ No metastases were present in the five local lymph nodes.

Discussion

These two cases illustrate the features of anal gland carcinoma which make this rare tumour difficult to diagnose: the widespread and diffuse involvement of the rectum, which produces a local mass lesion; the fact that mucosal biopsy specimens may be negative; the difficulty in identifying the site of origin; and the natural conclusion that the carcinoma may be metastatic. The importance of making the correct diagnosis is that removal of the primary leads to a relatively good prognosis, certainly better than that of disseminated metastatic disease.^{3 6}

Adenocarcinoma of the anal glands is distinctly uncommon: it accounts for about 3–10% of tumours at this site, as basaloid and squamous carcinomas of the anal canal predominate but these three tumours together only constitute 1% of large bowel neoplasms.^{3 4} A recent survey of members of the American Society of Colon and Rectal Surgery produced only 52 cases.³ The tumours tend to be flat, submucosal growths, 1–5 cm in diameter, producing stenosis as they spread diffusely within anal canal tissue. Lymphatic drainage at this site is mixed, so that there may be involvement of superficial inguinal nodes as well as pelvic and abdominal nodes. There is a greater likelihood of metastasis than with other primary tumours of the anal canal but the stage of the disease at diagnosis seems to be critical: in an early survey, only 5% of patients were alive at five years³ but the latest review⁵ revealed a much more favourable picture with 93% (14/15 cases) surviving for five years or more.

From six to 10 anal glands and their ducts lie in a narrow zone of transitional epithelium 6–12 mm long proximal to the anal valves and distal to the dentate line, between rectum and anus. The submucosa is narrow at this point; the ducts open at the dentate line but invariably extend into the internal sphincter and sometimes beyond.⁶ This anatomical location shows why presentation at the mucosal surface may be late. The ducts are lined by transitional epithelium at the surface, stratified squamous epithelium interspersed with occasional mucin secreting cells throughout their length and mucus producing glandular cells at their depths.² The mucins produced are a mixture of sulphomucins and sialomucins, but unlike those of the large bowel mucosa, lack O-acetyl groups, giving a helpful diagnostic test.⁵ Thus, the histological features of well formed acini composed of cubical epithelium producing O-acetylation negative mucin indicate that a search should be made for the site of origin in an anal gland.

A macroscopic classification of anal gland carcinomas has been suggested, dividing them into three groups: (a) anal; (b) perianal or ischiorectal; and (c) associated with fistula-in-ano.³ It was Rosser⁷ in 1934 who first suggested that anal glands could be the site of

carcinoma. The differential diagnoses include squamous cell carcinoma of the anal canal with mucinous histiocytes, apocrine carcinoma and Paget's disease of the perianal skin. An adenocarcinoma of the rectum may extend into the anal canal but is likely to be associated with an obvious intraluminal tumour. The association of carcinoma with fistula-in-ano is well known: this occurs when a chronic fissure or fistula has been present for 20 years or more. The carcinoma which develops is often colloid in type, with considerable mucin production.² These cases have to be distinguished from invasive carcinomas presenting as non-healing fistulae³ which have a much shorter history.

Reported cases of anal gland carcinoma have attracted controversy previously because of the difficulty in demonstrating a site of origin.^{2,3} The diagnosis can only be made with certainty

when the anal glands show in situ neoplastic change, as in the two cases presented here.

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Leukaemia of natural killer cell large granular lymphocyte type with HLA-DR⁻CD16⁻CD56^{bright+} phenotype

J Prieto, E Ríos, A Parrado, A Martín, J M de Blas, J M Rodríguez

Abstract

The case is reported of a 45 year old woman with the rare leukaemia of natural killer cell large granular lymphocyte (NK/LGL) type. Cytometric analysis of leukaemic blasts showed that they were positive for CD2, CD38, and CD56 antigens but negative for a series of antigens including CD3, CD7, CD16, and HLA-DR. Rearrangements of the β T cell receptor, and heavy and κ immunoglobulin genes were not detected and neither were chromosomal abnormalities. Leukaemic blasts developed NK cytotoxicity. The patient failed to respond to aggressive chemotherapy and died three months after diagnosis. The lack of expression of HLA-DR is an extraordinary characteristic of this case, as all cases of acute NK cell leukaemias described to date expressed HLA-DR. The immunophenotype observed in the NK cell leukaemic blasts may represent the counterpart of a hypothetical normal cell precursor in an early stage of ontogenic NK cell development.

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Natural killer (NK) cell proliferative disorders are very infrequent diseases that can be classified into chronic¹ and acute² forms. Acute NK cell leukaemia, referred to as NK/LGL leukaemia, has been described mainly in Japanese patients, although some European cases have been reported. NK cells express the CD3⁻CD56⁺ or CD3⁻CD16⁺ phenotypes, or both, and normally exist in the bone marrow, peripheral blood, and spleen. NK cells develop cytolytic activity against cells infected with viruses and also against certain tumour targets in a way not restricted to the expression of molecules of the major histocompatibility complex (MHC) on the target cell.³ All the cases of NK/LGL leukaemia so far described present the CD3⁻CD16⁺CD56⁺HLA-DR⁺ phenotype.^{2,4} In this paper we present a case of NK/LGL leukaemia with CD3⁻CD16⁻CD56^{bright+}HLA-DR⁻ phenotype.

Case report

A 45 year old woman was admitted with a high fever (but without signs of infection), cephalaea and myalgia, and moderate splenomegaly. Her haematometric results were: haemoglobin 75 g/l, leucocyte count of 2.3×10^9 /l, with a differential count of 57% segmented neutrophils, 5% monocytes, 26% lymphocytes, and 12% blasts with LGL morphology, and a platelet count of 90×10^9 /l. Two days later her

Servicio de Hematología y Hemoterapia, Hospital Universitario Virgen del Rocío, Servicio Andaluz de Salud, Sevilla, Spain

Correspondence to: Dr Prieto, Servicio de Hematología y Hemoterapia, Hospital Universitario Virgen del Rocío, Avda Manuel Siurot s/n, 41013 Sevilla, Spain.

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