

# Squamous cell carcinoma of the colon: a case report

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## Case report

A 71-year-old man, chronic smoker and drinker, presented to the Accident and Emergency Department of our institution in February 2021 with a history of abdominal pain and per rectal bleeding for 1 day. He also reported a weight loss of 15 kg over 1 month. On physical examination he was tachycardic and febrile; an abdominal mass was palpable over the right lower quadrant with localised peritoneal signs. Abdominal computed tomography revealed a 10 cm×9 cm×7.5 cm mass arising from the ascending colon with wall thickening of the caecum and ileum. There was also thickening of the perirenal fascia and a small amount of free fluid (Fig). Carcinoembryonic antigen (CEA) level was elevated (33 µg/L).

Laparotomy revealed an 8 cm×9 cm fungating tumour with circumferential involvement arising from the ascending colon. The tumour invaded the second and third portion of the duodenum, the right retroperitoneal space, ileocecal valve, and terminal ileum. It also presented with a concealed perforation sealed-off by the distal ileum without evidence of faecal contamination. There were no palpable liver masses and no signs of peritoneal deposits. Surgical excision of the tumour was performed to offer the best chance of survival. A right hemicolectomy with en bloc resection of the invaded structures was performed and a Roux-en-Y duodenojejunal anastomosis and end-to-end ileocolic anastomosis were fashioned.

The patient had a satisfactory postoperative recovery and was discharged from hospital under the care of our cancer care programme that included monitoring of CEA levels and annual colonoscopy and computed tomography of the abdomen and pelvis.

Interestingly, the histological examination revealed a carcinoma with squamous differentiation. Extensive sampling failed to reveal any glandular component. The final staging using TMN classification was Stage IIB (pT4bN0) and Dukes' stage B. Due to the aggressive nature of the tumour, adjuvant chemotherapy was planned.

Soon after surgery, a lung mass was seen on chest X-ray and CEA level showed a rising trend. A positron emission tomography scan revealed multiple

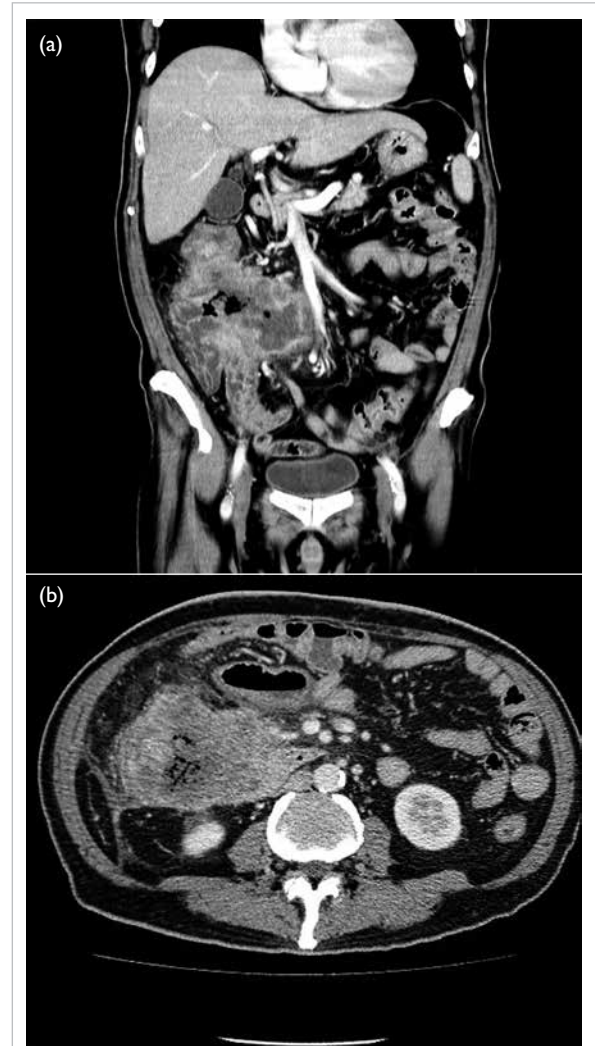


FIG. Abdominal computed tomography. (a) Coronal view showing a large colonic tumour arising from the ascending colon and (b) axial view showing the colonic tumour with invasion of the right perirenal fascia

deposits over the abdominal cavity and a 2-cm right lung mass with mediastinal and right supraclavicular lymph node metastasis. An excisional biopsy of the supraclavicular lymph node was consistent with metastatic squamous cell carcinoma (SCC).

In view of the presence of multiple metastases the patient was commenced palliative chemotherapy for disease control with gemcitabine and carboplatin. Serial tomography also showed progression of the abdominal, lung and lymph node metastasis. His condition further deteriorated and he succumbed 7 months after the initial diagnosis.

## Discussion

Colorectal cancer (CRC) is the third most common cancer worldwide.<sup>1</sup> In Hong Kong it is the second most common cancer and the second leading cause of cancer deaths.<sup>2</sup>

Most CRCs are adenocarcinomas and account for 95% of all cases. The remainder have non-epithelial histology such as carcinoid tumours, sarcomas, and lymphoid tumours. Squamous cell carcinoma accounts for only 0.1% to 0.5% of all types of CRC cases.<sup>3</sup>

The first case of SCC was reported in 1919 by Schmidtman. The majority of the data available comes from individual case reports with only about 100 cases reported worldwide.<sup>3</sup>

The mean age at presentation is 55 to 60 years old with no gender or ethnic predilection. The most common sites are the rectum, right colon, and sigmoid. The clinical presentation is similar to that of colonic adenocarcinoma, such as altered bowel habit, rectal bleeding, abdominal pain, weight loss, anaemia, and palpable abdominal mass. The duration of symptoms ranges from several weeks to months. Lymphatic spread follows the same route as adenocarcinomas with similar metastatic sites such as the liver, peritoneum, lung, and bone.

Squamous cell carcinoma of the colon has been associated with ulcerative colitis, infection with human immunodeficiency virus, human papillomavirus, infestation with schistosomiasis, *Entamoeba histolytica*, history of previous surgical procedures, and radiotherapy.<sup>3</sup> Nonetheless many reported cases have coexisting conditions.

The aetiology is unclear. There are three proposed pathogenic pathways, namely: (1) SCC arising from squamous differentiation from stem cells; (2) squamous metaplasia that undergoes malignant transformation; and (3) squamous differentiation from existing adenocarcinomas.<sup>4</sup> The last pathway is supported by Williams et al<sup>4</sup> who described squamous differentiation in three of 750 adenomas.

Miyamoto et al<sup>5</sup> proposed a four-criteria selection for diagnosis: (1) metastasis from other sites must be excluded; (2) a squamous-lined fistulous tract must not involve the affected bowel; (3) SCC of the anus with proximal extension must be excluded; and (4) histological analysis must confirm the SCC.

Colorectal SCCs are more locally invasive and carry a worse prognosis than their common counterpart. Most cases are diagnosed at a late disease stage, often presenting as complications such as bowel obstruction or perforation. The overall 5-year survival of SCC of the colon is 35%, with 52% mortality within the first year, compared with the overall 60% 5-year survival of adenocarcinomas.<sup>3</sup> Frizelle et al<sup>6</sup> found that early stages of SCC had a similar prognosis to adenocarcinomas after evaluating 52 patients from the Mayo Clinic tissue registry in 2001. Nonetheless metastasis was present in 49% of these patients.

There is no current standard treatment. Most cases are managed following the guidelines for adenocarcinomas. The crucial steps are a complete surgical excision with negative margins, and aggressive chemotherapy. Various chemotherapy regimens have been proposed using 5-fluorouracil, capecitabine and gemcitabine.<sup>7</sup> For SCC located in the rectum, chemoradiotherapy has demonstrated good success for local control, similar to anal SCC. The most important prognostic predictor is cancer stage. Factors associated with poor prognosis are a right-sided location and ulcerated or annular carcinomas.

Considering only 10% to 20% of all CRC cases present with local invasion, this feature should alert surgeons to this form of aggressive CRC. The timing of post-treatment surveillance (serial CEA and annual tomography and colonoscopy) can be adjusted considering the higher mortality and worse prognosis. Systemic staging investigations such as computed tomography thorax or positron emission tomography scan can be regularly implemented in view of the higher rate of metastasis.

### Author contributions

Both authors contributed to the concept or design of the study, acquisition of data, analysis or interpretation of data, drafting of the manuscript, and critical revision of the manuscript for important intellectual content. Both authors had full access to the data, contributed to the study, approved the final version for publication, and take responsibility for its accuracy and integrity.

### Conflicts of interest

Both authors have no conflicts of interest to disclose.

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### Ethics approval

The patient was treated in accordance with the Declaration of Helsinki and provided informed consent for the treatment/procedures and verbal consent for publication.

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