

## CLINICAL IMAGE

# Advanced transverse colon cancer highly indicative of invasion to the duodenum and pancreas

Takayuki Yamada MD, PhD<sup>1</sup>  | Ichiro Sakamoto MD, PhD<sup>2</sup> | Susumu Ohwada MD, PhD<sup>3</sup><sup>1</sup>Asunaro Clinic, Takasaki, Japan<sup>2</sup>National Hospital Organization Takasaki General Medical Center, Takasaki, Japan<sup>3</sup>Askohwada Medical Consultant Office, Maebashi City, Gunma Prefecture, Japan**Correspondence**

Takayuki Yamada, Asunaro Clinic, Takasaki, Japan.

Email: asunaro.clinic.takasaki@gmail.com

**Abstract**

Our images showed an advanced transverse colon cancer highly indicative of an invasion to the duodenum and pancreas. For en bloc tumor resection, surgeons should make a deliberate operative plan.

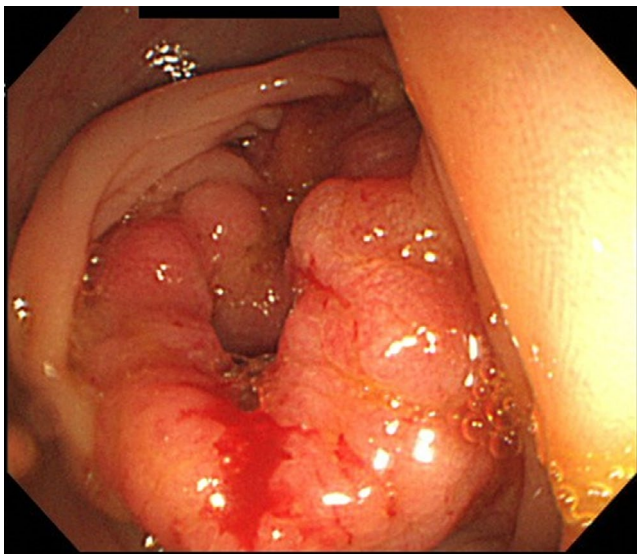
**KEYWORDS**

direct invasion to the duodenum and pancreas, locally advanced right-sided colon cancer, pancreaticoduodenectomy, right hemicolectomy

What diagnosis could be made from the endoscopic image and abdominal radiograph, and how should the condition be managed?

A 68-year-old man presented with periodic abdominal pain, prolonged diarrhea for 3 months, and weight loss of 3 kg. A colonoscopy image revealed fully circumferential transverse colon tumor stenosis (Figure 1), and a postcolonoscopy

abdominal radiogram showed an apple core sign (Figure 2, arrow), indicating albescent large bowel obstruction due to



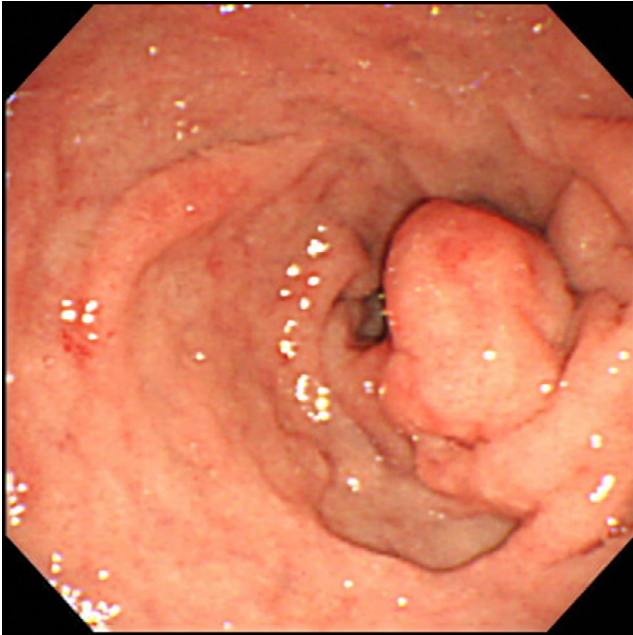
**FIGURE 1** A colonoscopy image revealing fully circumferential transverse colon tumor stenosis



**FIGURE 2** A postcolonoscopy abdominal radiogram showing an apple core sign (arrow)

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2019 The Authors. *Clinical Case Reports* published by John Wiley & Sons Ltd.



**FIGURE 3** An esophagogastroduodenoscopy image showing a submucosal tumor of the duodenal bulb



**FIGURE 4** The computed tomography findings were highly indicative of duodenal and pancreatic head invasion of the transverse colon cancer

transverse colon cancer. Biopsy revealed a moderately differentiated adenocarcinoma. An esophagogastroduodenoscopy image showed a submucosal tumor of the duodenal bulb

(Figure 3), indicating direct tumor invasion. The computed tomography findings were highly indicative of duodenal and pancreatic head invasion of the transverse colon cancer (Figure 4). We planned en bloc pancreaticoduodenectomy and right hemicolectomy for the locally advanced right-sided colon cancer preoperatively. On laparotomy, the tumor showed neither lymph node metastasis nor duodenal or pancreatic invasion. Thus, a radical right hemicolectomy alone was performed curatively.<sup>1,2</sup> Locally advanced right-sided colon cancer may directly invade the duodenum or pancreatic head. Our images showed an advanced transverse colon cancer highly indicative of an invasion to the duodenum and pancreas. For en bloc tumor resection, surgeons should make a deliberate operative plan.<sup>1,2</sup>

#### AUTHOR CONTRIBUTIONS

TY: Served as a diagnostician and first author. IS: Served as an operator. SO: Served as a supervisory doctor.

#### ORCID

Takayuki Yamada  <https://orcid.org/0000-0002-6455-2598>

#### REFERENCES

1. Khalili M, Daniels L, Gleeson EM, et al. Pancreaticoduodenectomy outcomes for locally advanced right colon cancers: a systematic review. *Surgery*. 2019;166(2):223-229.
2. Cirocchi R, Partelli S, Castellani E, et al. Right hemicolectomy plus pancreaticoduodenectomy vs partial duodenectomy in treatment of locally advanced right colon cancer invading pancreas and/or only duodenum. *Surg Oncol*. 2014;23(2):92-98.

**How to cite this article:** Yamada T, Sakamoto I, Ohwada S. Advanced transverse colon cancer highly indicative of invasion to the duodenum and pancreas. *Clin Case Rep*. 2019;7:2277–2278. <https://doi.org/10.1002/ccr3.2447>