



Emergency first presentation of colorectal cancer following air travel: a case series

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DECLARATIONS

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Reviewer

Sarah Damery

We report the first case series linking air travel to acute manifestation of colorectal cancer in previously asymptomatic patients.

Introduction

Symptoms of colorectal cancer are typically non-specific and insidious, accounting for up to 35% of colorectal cancer patients presenting as an emergency.¹ Although emergency presentation of colorectal cancer is generally associated with preceding symptoms such as abdominal pain, weight loss and diarrhoea, up to one-third of these patients are completely asymptomatic.²

In this case series, we present five previously asymptomatic patients whose colorectal tumours staged a dramatic presentation after travelling by air to their holiday destination abroad. The possible link between air travel and colorectal cancer manifestation has not been suggested previously, but warrants further consideration.

Case reports

Over a 5-year period, five patients were transferred to one surgeon in a university teaching hospital for postoperative recovery after emergency surgery for complicated colorectal cancer while on holiday outside the UK. There were four men and one woman aged between 59 and 73 years (mean age of 65). While undergoing their postoperative recovery all patients were thoroughly interviewed by the surgical team regarding their preoperative signs and symptoms. All five patients denied any signs and symptoms of colorectal cancer, including any signs of weight loss, anorexia, lethargy, rectal bleeding or mucus, change in bowel habit or

change in appetite. They also denied any change in diet, lifestyle or medication in the run-up to their holiday. All five patients were in good health, had a good diet and quality of life pre-emergency admission. They were all completely asymptomatic prior to their holidays. Three patients presented with intestinal obstruction, while the remaining two had severe rectal bleeding and generalized peritonitis secondary to colonic perforation. There was a predominance of left-sided colonic lesions (four patients). Two patients underwent segmental bowel resection with stoma formation; bowel continuity was restored intraoperatively in two cases while a defunctioning colostomy was performed in one case with an inoperable tumour. There were similar proportions of Dukes B and C cases (two and three cases, respectively). All patients are still alive after a mean follow-up time of 22 months (Table 1).

Discussion

This case series demonstrates the dramatic mode of presentation of an advanced tumour in stark contrast to the absolute lack of symptoms in the immediate period preceding the patients' holiday.

We also highlight the paucity of symptoms attributable to these colorectal tumours in our patient cohort who went on to develop life-threatening complications of their condition, necessitating emergency surgery while abroad. We are aware that the main limitation of this report is that the observed potential association between air travel and colorectal cancer presentation might be a coincidental one, but as this is the first published report of this kind, we aim to

Table 1
Details of patients and histopathological variables

Age (years)	Sex	Presentation mode	Tumour site	Operation	Stage (Dukes)	Holiday location	Follow-up (months)
59	Male	Obstruction/perforation	Sigmoid	Hartmann's resection	C	Vancouver	12
62	Male	Obstruction	Sigmoid	Sigmoid colectomy	B	Spain	24
62	Male	Bleeding	Rectum	Defunctioning colostomy	C	Tunisia	48
67	Male	Obstruction	Rectum	Hartmann's resection	C	Amsterdam	16
73	Female	Obstruction	Right colon	Right hemicolectomy	B	Ireland	12

entice other authors to report their experience of acute presentation of colorectal cancer in asymptomatic patients while on holiday abroad. We are also aware that all patients were interviewed in their postoperative period and patient recall bias cannot be excluded, however all patients denied any obvious colorectal cancer signs and symptoms on close questioning.

The development of life-threatening complications attributed to an acute presentation of colorectal cancer shortly after patients land at their holiday destination has never been reported in the literature. However acute colorectal cancer presentation and short duration of symptoms is well-described in the literature, but this does not guarantee an earlier disease stage, neither is it directly related to long-term survival.³ Similarly, a previous prospective study illustrates that the relationship between symptom duration and long-term survival following colorectal cancer is complex. This study included 777 consecutive colorectal cancer patients to determine the association between symptom duration and survival independent of other clinical and pathological features. They found that symptom duration shortened with advanced tumour stage ($P < 0.0006$) and was also shorter for patients presenting with bowel obstruction ($P < 0.0001$). Univariate survival analysis showed that long-term survival increased consistently with symptom duration ($P < 0.001$).⁴ Indeed, four of our patients presented with either perforation or obstruction. In contrast, there is one

report that links the absence of intestinal symptoms to a higher incidence of early cancers, and hence to a better prognosis.⁵

All our reported cases illustrate that the complete absence of symptoms is a characteristic of some colorectal tumours, and raise the possibility that high altitude flying may precipitate their manifestation. However, the reason why previously healthy and asymptomatic individuals suddenly developed an acute abdomen shortly after arrival at their holiday destinations remains unknown. We hypothesize that the reduction in atmospheric pressure, vibration, circadian disruption and mild hypoxia with resultant rise in intraluminal colonic pressure associated with air travel⁶ might act as precipitating factors, although we could not find any published evidence to support this. Further studies are needed to clarify the effect of high-altitude flying on colonic physiology parameters, particularly on patients with underlying colorectal pathology.

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