

# Colonic Adenocarcinoma with Florid Vascular Proliferation Related to Intussusception

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Published online: 7 November 2017  
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## Case Presentation

A 62-year-old lady presented to the hospital with severe abdominal pain and vomiting since 2 days. There was no significant past medical history. A contrast-enhanced CT of the abdomen showed an ileocolic intussusception (Fig. 1A, C) with a polypoidal enhancing mass (Fig. 1B) as the lead point of the intussusception. There were no abnormal enhancing vascular channels seen in the involved segments of the ileum or colon and no evidence to suggest an arteriovenous malformation.

The patient underwent a laparotomy with the diagnosis of intestinal obstruction due to an ileocolic intussusception. Intraoperatively, ileocolic intussusception was noted with a polypoidal mass in the cecum as the lead point. There was no evidence of gangrene. A right hemicolectomy was performed. On gross examination, a

villiform broad-based polypoid growth was noted at the caecal side of the ileocaecal junction (Fig. 2). On microscopic examination, a usual type of colonic adenocarcinoma was seen juxtaposed with a florid small vessel proliferation extending to the subserosal fat (Fig. 3A, B). The proliferation had a predominant lobular configuration with foci of increased cellularity. A few of the endothelial cells lining the vessels displayed mild nuclear atypia (Fig. 3C) but no mitosis were seen. The adjacent mucosa showed features compatible with ischemic damage (Fig. 3D).

A CD34 immunostain highlighted the vascular proliferation in a lobular configuration (Fig. 4).

## Discussion

Intussusception is commonly described in children, wherein most often it is idiopathic. Intussusception in adults is rare accounting for 5% of all intussusceptions [1] and commonly thought to be associated with a lead point such as carcinomas, lipomas or polyps. However, Warsheur DM et al. [2] studied 33 patients of adult intussusception, almost half of which were idiopathic.

Vascular lesions of the bowel are uncommon, apart from angiodysplasias. A few cases of angiosarcoma [3], Kaposi's sarcoma [4] and haemangioma [5] in intussusception have been reported. Florid vascular proliferation in the bowel in association with intussusception is an enigmatic entity and is 'florid' enough to be misinterpreted as a vascular neoplasm. Adachi et al. [6] described a nodule-aggregating appearance of this lesion over a lipomatous core in a 50-year-old male

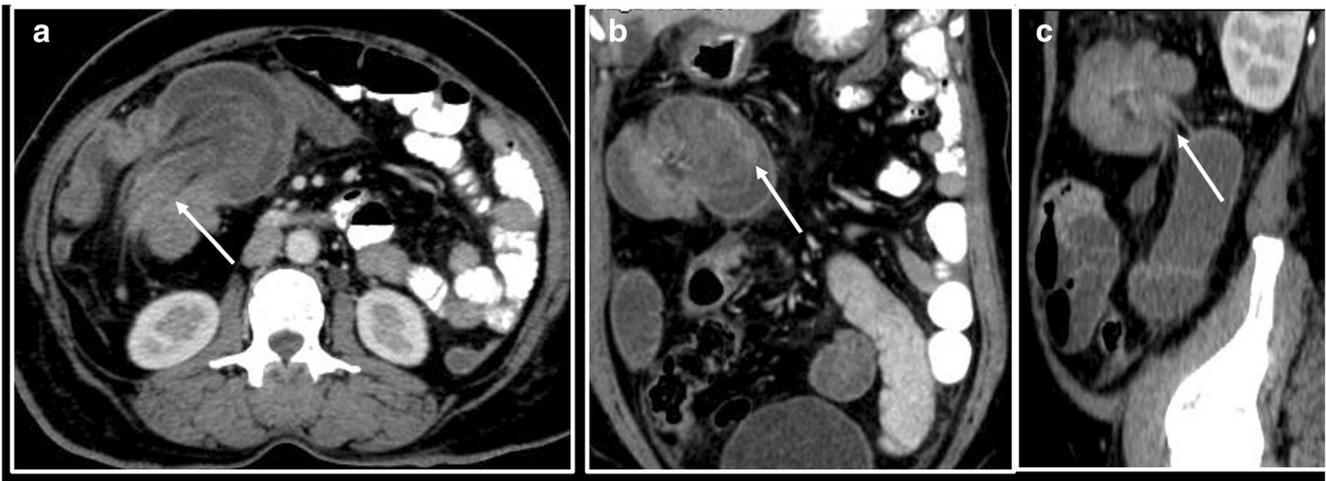
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**Fig. 1** **a** Axial contrast CT showing an ileocolic intussusception, arrow. **b** Coronal CT shows a lead point at the apex of the intussusception, which appears to be an enhancing mass with papillary projections, arrow. **c** Sagittal contrast showing the intussusception, arrow

with repeated intussusceptions, at the level of the ascending colon. Neil et al. [7] reported five such cases, only three of which had documented intussusception, all of which were at a caecal location. A possibility of underlying arteriovenous malformation was stated in two cases. However, no distinct lead point has been described in any of the five cases. KL Ramsden et al. [8] reported a similar lesion in a 72-year-old male with ileocaecal intussusception in which the lead point was described as a lipoma. The differential diagnosis of this lesion includes angiosarcoma, Kaposi's sarcoma and pyogenic granuloma. The histopathological dilemma is further increased where a secondary lead point is not identified, raising the possibility of a neoplasm which triggered the

intussusception. However, in these lesions, there is no significant atypia, rare mitosis and no infiltrative pattern, as in the present case, differentiating it from a malignant vascular neoplasm. Also, a gross polypoid appearance is lacking, differentiating it from a pyogenic granuloma.

The etiopathogenesis of this lesion remains obscure. It may be hypothesised that long-standing mechanical stress may play a role in setting off a cascade of angiogenic factors [7] causing an exuberant vascular 'neoplasm-like' proliferation.

In the present case, an established lead point in the form of a polypoid adenocarcinoma was present. However, the fact that this lesion has also been described in cases of intussusception without a lead point makes one to ponder whether this lesion precedes the development of intussusception or is the aftereffect of intussusception. Mi Jin Ju et al. [9] described a similar lesion in the appendix of a 41-year-old male. The patient did not have any history of recurrent prior appendicitis to elicit such a florid vascular response. Moreover, there was no evidence of appendicitis histologically.

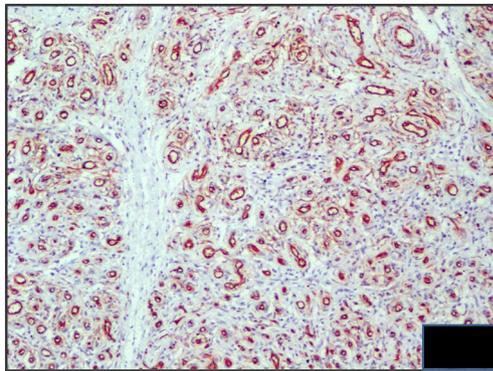
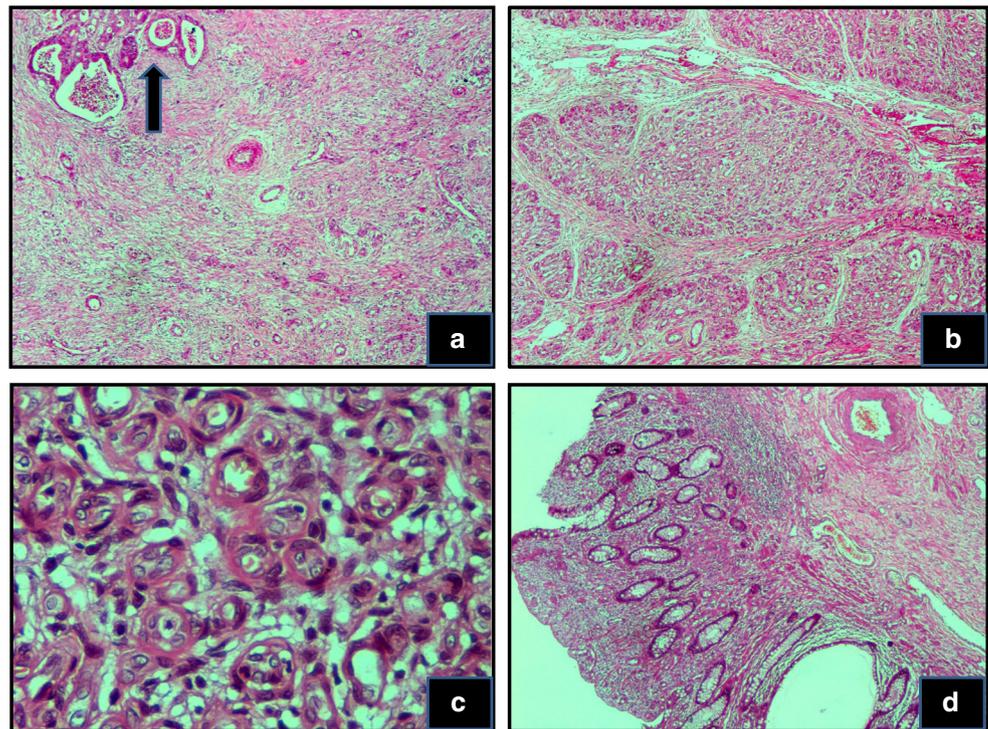


**Fig. 2** Right hemicolectomy specimen showing a polypoid mass at the caecal side of the IC junction

## Conclusion

In conclusion, 'florid vascular proliferation of the colon in association with intussusception' has been identified with an adenocarcinoma for the first time in this case report. This peculiar lesion needs to be considered in the differential diagnosis of vascular lesions of the bowel, especially in the setting of intussusception, to avoid potentially serious misdiagnosis.

**Fig. 3** **a**  $\times 4$  magnification showing focus of adenocarcinoma, arrow, juxtaposed to the vascular proliferation. **b**  $\times 4$  magnification showing vascular proliferation in a lobular configuration. **c**  $\times 10$  magnification showing focus of mild atypia with increased cellularity. **d**  $\times 4$  magnification showing adjacent mucosa with ischemic damage



**Fig. 4** CD34 immunostain highlighting the lobular configuration of the vascular proliferation (performed using the avidin-biotin immunoperoxidase method)

#### Compliance with Ethical Standards

**Statement of Ethics** The authors have no ethical conflicts to disclose.

**Conflict of Interest** The authors declare that they have no conflicts of interest.

**Consent** Informed consent was taken from the patient. All identifying data have been removed.

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