Topically zinc oxide and para-aminobenzoic acid ointment may be advised. Niacinamide is inexpensive doses of niacin. Since niacin causes flushing, feedback inhibition or substrate competition. INH impairs the functioning of pyridoxine, a cofactor in tryptophan-niacin pathway and inhibits the niacin synthesis leading to pellagra.\(^2\) Physicians should be aware of such cases and should treat any “sick” person with unexplained skin, neuropsychiatric changes or gastrointestinal complaints with safe, inexpensive doses of niacin.

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Benign signet ring cells in the subserosa of the small intestine: a pseudoneoplastic phenomenon

Editor,

Aggregates of non-neoplastic signet ring cells have been previously described in the small intestine mucosa in ischaemia\(^1\) and in association with Peutz-Jeghers polyps,\(^2\) and in the colonic mucosa in ulcerated adenomas\(^3\) and pseudomembranous colitis.\(^4\) They are an uncommon finding that may be mistaken for signet ring cell carcinoma.

A similar phenomenon has also been identified outside the gastrointestinal tract.\(^5\&\(^6\) We report a case in which non-neoplastic signet ring cells in the subserosa of the small intestine could potentially have been mistaken for signet ring cell carcinoma. As far as we are aware, benign signet ring cells mimicking signet ring cell carcinoma have never before been described in the subserosa of the intestine.

\textbf{CASE REPORT} A 76-year-old man presented with subacute bowel obstruction. Three years previously he had an extended right hemicolectomy for colonic adenocarcinoma. His past medical history included ischaemic heart disease and an abdominal aortic aneurysm. A barium enema showed a tight stricture, proximal to the point of previous anastomosis, suggestive of an obstructing tumour. He subsequently underwent laparotomy, resection of the strictured intestine and ileocolic anastomosis.

The surgical specimen consisted of 28cm of small intestine anastomosed to 3cm of large intestine. The distal small intestine was concentrically strictured adjacent to the point of anastomasis. Fibrinous exudate was present on the serosal surface and the small intestine wall was thickened. There was shallow mucosal ulceration in the strictured area.

Multiple sections were examined histologically. These showed features of an ischaemic stricture. There was mucosal ulceration and the submucosa was lined by inflamed granulation tissue. There was also fibrosis of the submucosa and subserosa. Where the mucosa was intact there was hyalinisation of the lamina propria. However, in several sections there was an abundance of cells with signet ring morphology localised to the subserosa (Figure 1). We were immediately concerned that these cells represented locally recurrent or metastatic signet ring cell carcinoma.

We reviewed the histology from the initial case. This was found to be an adenocarcinoma with an intestinal pattern and there was no signet ring differentiation. In addition we performed immunohistochemistry. The signet ring cells were negative for the epithelial markers CAM5.2 and AE1/AE3. We concluded that these cells were in fact not malignant and are a non-neoplastic mimicker of signet ring cell carcinoma.

\textbf{Fig IA.} Subserosal signet ring cells in groups and singly dispersed.

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The abundance of signet ring cells in the subserosa of the small intestine showed features of an ischaemic stricture. We considered a mesothelial origin for these cells in view of the overall context of ischaemia. The histology of the abdominal aortic aneurysm, and while histology of the subserosal location but staining with calretinin, adipocytes distorted by subserosal fibrosis that has occurred secondary to intestinal ischaemia.

In contrast, mucosal aggregates of benign signet ring cells are thought to be dispersed Goblet cells derived from multipotent stem cells in the crypt base following ischaemic injury. These cells stain positive for neutral mucins and they are also positive immunohistochemically with pan-cytokeratin. The subserosal aggregates of signet ring cells in this case are negative for both neutral mucins and epithelial immunohistochemical markers.

In summary, the distinction of non-neoplastic signet ring cells from signet ring cell carcinoma is vital as the incorrect diagnosis of signet ring cell carcinoma has obvious prognostic and therapeutic implications. We have described a case in which aggregates of benign signet ring cells in the subserosa of the small intestine could have been mistaken for signet ring cell carcinoma. An erroneous diagnosis was avoided by consideration of this finding in the context of all the changes present, through awareness of the existence of benign mimickers of signet ring cell carcinoma, and by the use of immunohistochemistry.

CONFLICT OF INTEREST
The authors have no conflict of interest

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