Long ischaemic stricture of the interposed colon

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ABSTRACT A case is reported of a long segment stricture in a colonic oesophageal replacement with radiographic evidence to support the diagnosis of ischaemia. Ischaemia of the substitute organ following oesophageal resection is a well recognised, serious complication that usually results in anastomotic leakage. If the anastomosis heals primarily, late manifestations of ischaemia are rare.

Ischaemia of the substitute organ following oesophageal resection is a well recognised, serious complication that usually results in anastomotic leakage. If the anastomosis heals primarily, late manifestations of ischaemia are rare. A case of a long segment stricture in a colonic oesophageal replacement is reported, with radiographic evidence to support the diagnosis of ischaemia.

Case report

A 71 year old Chinese man presented with a six month history of progressive dysphagia. This was found to be due to an adenocarcinoma at 41 cm, extending from the cardia on to the lesser curvature of the stomach. At operation there was no evidence of metastatic spread, and a transhiatal, total oesophagegastrectomy was performed and the right hemicolon was interposed orthotopically. The upper anastomosis was to the oesophagus in the neck and the lower anastomosis to the duodenum. The bowel preparation was poor, and he had a rather stormy postoperative course, which included a left subphrenic abscess and wound dehiscence. He did, however, recover and was discharged from hospital able to swallow normally. He presented with recurrent dysphagia two months after his initial operation. A barium swallow (fig 1) showed a long stricture in the colon from D4 to D7–8. Fibreoptic endoscopy showed a smooth, fibrous stricture 14 cm long, starting 2 cm beyond the anastomosis. Biopsies did not show any recurrence of malignancy. Further investigation with a superior mesenteric arteriogram (fig 2) showed the middle colic artery to be visualised only to D10. The stricture was managed conservatively with bouginage, resulting in relief of dysphagia.

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Fig 1 Barium swallow showing a long smooth stricture of the colon transplant. The arrow indicates the level of the anastomosis. Note that the stricture is proximal to the surgical clips and that the vasculature stops distal to the clips (see fig 2).
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An unusual aspect of this particular complication is that all but one of the reported cases had primary anastomotic healing, with the stricture presenting no earlier than one month postoperatively. The stricture may affect all or part of the colon loop. In our case the stricture affected about 40% of the interposition with sparing of the proximal 2 cm. The other reported cases had either segmental or total interposition strictures. Most authors have considered ischaemia, either arterial or venous, to be the underlying cause. Indirect evidence for this has been provided by two authors. Harvey and Kettlewell documented a period of postoperative hypotension and hypoxia, followed by “thumbprinting” of the colonic mucosa, on a barium swallow five days postoperatively, characteristic of ischaemic colitis. Larson et al found that either necrosis or strictureting occurred in those patients whose preoperative angiogram showed an interrupted marginal artery. In addition, Hong et al postulated that venous stasis with subsequent thrombosis might be responsible, as they noted that the colon in the neck often looked deeply congested.

Discussion

The most common postoperative complications of oesophagocolonic surgery relating to the substitute are anastomotic leakage, anastomotic stricture, and acute ischaemia of the substitute organ. Intrathoracic leakage and gangrene of the substitute both pose a major threat to the patient’s life. Both may be due to technical failure, either anastomotic or arising from the preparation of the interposition loop and its vascular pedicle. Short segment anastomotic stricture is often associated with non-fatal anastomotic leakage and may also be associated with reflux of gastric contents or recurrent malignancy. Long segment fibrous stenosis of the interposed colon is an uncommon complication, with only nine other published cases. Linder and Hecker in 1962 made the first report; of the other eight patients six required further surgery.

References

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