Palliation of malignant obstructive jaundice – surgery or stent?

The revolution in therapeutic endoscopy in the last decade has changed the accepted management of malignant obstructive jaundice. Non-operative biliary intervention for obstructive jaundice was first developed via the transhepatic route, although that approach was associated with all the problems of puncturing the obstructed liver, particularly bile leakage and bleeding. With development of bigger channel endoscopes it became possible to position biliary stents via the endoscopic route and this provided good decompression with a much lower level of complications. Endoscopic biliary stenting is now widely available, although not in all hospitals, and the procedure can be performed easily on a day case basis at a near by referral centre. Clinicians must now decide whether to refer a patient with suspected malignant biliary obstruction to an endoscopist or a surgeon for treatment.

High biliary strictures
High bile duct lesions or bifurcation lesions, whether due to primary cholangiocarcinoma or secondary growth from colonic or gastric carcinoma, are extremely difficult for the surgeon to deal with effectively and there is little doubt that endoscopic stenting is the treatment of choice. Among endoscopists there is debate as to whether one or two sides of the liver should be stented when a bifurcation lesion obstructs both lobes. In some centres it is usual to place stents into both the right and left intrahepatic ducts. While this may be satisfying for the endoscopist, it may be clinically unnecessary. Other studies have shown that 80% of hilar lesions can be satisfactorily palliated with a single prosthesis into one lobe of the liver and only 5% of patients needed a second stent, because of either inadequate relief of jaundice or sepsis.

Low bile duct obstruction
Obstruction to the lower part of the bile duct by pancreatic or biliary tumours can be palliated surgically, by either a choledochoduodenostomy or a cholecystenterostomy. The latter procedure is associated with a significant rate of recurrent jaundice from tumour growth obstructing the cystic duct origin. Endoscopic stenting is more straightforward in low bile duct lesions and will reliably palliate jaundice and itching without the need for general anaesthetic or surgery. Patients recover quickly after stenting and are able to return to their normal activities much more rapidly than after surgery. The problem for the clinician is to decide which of these two alternatives to choose for the individual patient.

There are few reliable comparative data to aid that decision. The surgical reports are bedevilled by reports of surgical series from selected centres with widely differing mortality rates from 5%–25%. Series which report a low mortality often do not include elderly frail patients, or those patients too sick to be considered for surgery. Reports of endoscopic stenting suffer to some extent from the same problem of patient selection. For example, in the review of surgery and stenting from the Middlesex Hospital, where the mortality of stenting was twice that of surgery, it was clear that the stenting patients did far worse because they were old and unfit and had largely been turned down for surgery. This finding precipitated a review entitled ‘Apples and Oranges,’ which highlighted the dangers of comparing different techniques in totally dissimilar groups of patients.

A randomised controlled trial from the Middlesex Hospital comparing surgical bypass and endoscopic stenting in over 200 patients has now been completed and the final results will be published shortly. In this study, both young and elderly patients were included and the two groups were well balanced with equal numbers of elderly and ill patients in each group in an attempt to study a realistic spectrum of patients. There was a significantly lower complication rate after endoscopic stenting (10%) compared with surgery (28%). The direct procedure related mortality was significantly lower in the stenting group (4%) compared with surgery (13–6%) as was the 30 day mortality – 7% for stenting and 17% for surgery. The early benefits of stenting made no difference to the overall outcome of the patients, in that the survival curves for the two groups of patients were similar with a median survival in both groups of about five months.

The duodenum was initially normal in all patients so that the incidence of late duodenal obstruction in the non-surgical group was of great interest. Only a few patients (6%) in the stenting group of this study needed a gastroenterostomy for duodenal obstruction at a later stage, suggesting that a prophylactic gastroenterostomy may not be necessary in addition to the surgical procedure at the time of the initial biliary bypass. Eleven of the patients who underwent a cholecystenterostomy presented with jaundice due to tumour invasion of the cystic duct and needed endoscopic stenting. Although it is known that 10 and 12 FG endoscopic stents block at about four to five months and need replacing, only 18% of patients in the stenting group in this study were readmitted for a stent change. Most patients who died were not jaundiced and their first stent was still in situ. The development of wide bore (10 mm) expanding metal stents (Wallstent, Schneider), which can be placed endoscopically
may obviate the need for readmission as the stents rarely occlude. They are expensive, however, when compared with the traditional polyethylene stents. Stents with antibacterial coating are currently under evaluation.

Conclusion
The dilemma of 'stent or surgery' remains. Stenting is obviously preferrable because of the cost effectiveness of the initial procedure and the length of patient stay. The low procedural and 30 day mortality data would also favour stenting. However, in the patient who might survive longer, the need for one or two readmissions to hospital for stent changes and the need for a late gastroenterostomy in a few patients would make surgery more attractive as an initial treatment option.

As survival cannot be predicted accurately, a sensible approach might be to recommend a surgical biliary bypass in the younger fitter patient who might survive more than six months. Endoscopic stenting is recommended for the ill, elderly, or frail patient, often with advanced malignant disease, in whom a survival of only three to four months might be expected. In these patients the jaundice can be palliated simply and safely and they are able to return home to their family more quickly in order to make the most of their limited survival.
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A R Hatfield

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