cularis, and serosa receive their blood supply by secondary branches from the submucosal plexus of vessels. Vasa recta have clearly been demonstrated passing through the wall and joining the submucosal plexus. Hence it seems probable that reduced serosal perfusion stems from either extramural vascular disease or obliterator lesions within the submucosal plexus.

The colonic microcirculation represents the final common pathway for the delivery of oxygen and nutrients to the tissues of the bowel wall and we agree with Fawcett et al. that its integrity is critical to successful anastomotic healing. However, the importance of the serosal plexus, as emphasised by these authors remains open to question. It is noteworthy that the distal two thirds of the wall is devoid of serosa and hence it is untenable that the vascularity of this layer plays any part in the healing of anastomoses below the peritoneal reflection. Based on our own microangiographic and fluorescent x ray analysis studies, the submucosal region provides the cornerstone of perfusion of other layers of the bowel well. We believe that preservation of the submucosal plexus by careful extramural dissection in anastomosis provides the most favourable set of circumstances for uneventful anastomotic healing.

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In our study, the incidence of microvascular disease was assessed by examining all vessels apparent in at least two sections taken from the anastomotic margin. (Sections taken further away may not necessarily reflect the state of the vasculature at the anastomosis.) The incidence of the lesions can be easily assessed visually, particularly in the intima, which is clearly visible under these circumstances. Histological analysis was focused on intimal changes rather than others already well documented such as medial hypertrophy, because, as the discussion section of the paper indicates, our main interest is in the possible altered response to vasoactive substances that may occur in the presence of a diseased endothelium.

Mr Carr and his group were unable to show a correlation between smoking and microvascular disease in their research. We cannot explain this difference in results with any certainty, but would suggest that one reason for this discrepancy may be that study, while examining fewer vessels overall than did Carr et al., involved nearly three times as many patients. Our study showed that not all smokers exhibit colonic microvascular disease. Thus the reason for our different results, if the lesion is indeed present in the vessels as they traverse the serosa, this clearly may affect the distal circulation. We thus agree that submucosal perfusion may still be the critical factor in anastomotic healing, as we stated in the paper.

We would take issue, however, with Mr Carr's comments concerning the role of the serosal layer in anastomoses formed below the peritoneal reflection. While it is true that the distal two thirds of the rectum has no serosal covering, the proximal end of such anastomoses are formed by intraperitoneal colon, which does have a serosal coat. The significance of this serosal coat and its vascularity is open to question, but it is of interest to note that when a colorectal anastomosis breaks down as a consequence of ischaemia, it is more often than not the proximal end of the anastomosis that is at fault.

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Reply

EDITOR,—The work by Mr Carr on the colonic microcirculation is well known and we are grateful for his comments. He raises several points that require clarification.


There have been few advances in modern general surgery that have had such an impact on the management of a common problem as the introduction of laparoscopic cholecystectomy (LC). This book commemorates the first five years of its widespread use by reporting the details of an international meeting held in Bern, Switzerland in May 1995. It generally represents the European perspective but there is limited US input.

The volume begins with a general introduction to gall stone disease, which includes chapters on the pathogenesis and assessment of patients, the types of treatment modalities available, and concludes with a summary of the history of cholecystectomy and a comparison between open versus laparoscopic procedures. Subsequently, reports on various different countries’ experiences with LC and has chapters from surgeons in Switzerland, UK, Austria, Berlin, Hungary, and Chile.

This is a deal devoted to ‘advanced techniques’ with articles on LC and acute cholecystitis and pancreatitis, the use of intraoperative imaging of the biliary tree with cholangiography and ultrasonography, and laparoscopic cholecystectomy complicated by bile duct stones. Unfortunately, the authors of these latter sections sit comfortably on the fence and fail to provide hard advice on whether operative cholangiography should be performed or not as a best way of managing bile duct stones under varying circumstances. Expert guidance could have replaced a ‘balanced’ reflection of controversies.

Predictably the volume finishes with a section on the complications of LC and their management. This covers experiences with high risk patients, access related complications, bile duct injuries and ends rather incongruously for the section with a chapter on gall bladder cancer.

Generally the volume is very readable and well presented, allowing the reader to browse rapidly through its contents and yet it contains a great deal of information on recent published data with articles on every aspect of LC from acute cholecystitis to gall stone disease and cholecystectomy in general. One could envisage this summary of information as being a very useful source of reference of the most recent literature in this area and this is the volume’s main strength.

There is little in the way of novel concepts contained within the book and it is not the best source for detailed information about the management of bile duct injuries for example. The section on the management on the complicated LC was generally rather weak and would have benefited from more pages of text with less emphasis on the experiences from different countries, the selection of which seemed arbitrary and I suspect reflected the individual biases of their respective authors.

While the width of topics covered was good, there were a couple of general omissions, namely: the impact of this technique on the training of surgeons and also the comparison of LC with minicholecystectomy, which received much attention in the recent Royal College of Surgeons of England publication. In my review, it would be interesting to know of the European experience with these two operations and how it compares with the UK.

Ultimately, the book is the most up to date information for the reader that has access to a good library, and is likely to have gone through some reference and background data but contains little new information to the experienced general surgeon.

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