Aging and the alimentary tract

Gastrointestinal surgery in old age: issues of equality and quality

Many recent developments in gastrointestinal surgery are of particular relevance to older people. They include new methods for the treatment or palliation of carcinoma, an increasing use of laparoscopic techniques (although the benefits of many of the approaches have yet to be proved in randomised controlled trials), and new treatments for non-malignant anal problems such as incontinence and prolapse. Meanwhile, the role of elective surgery in the field of peptic ulceration continues to decrease because of more effective medical treatments.

The majority of research studies in the older surgical patient have confined their attention to the surgical ward, typically correlating the immediate preoperative risk factors with the immediate postoperative outcome. Although valuable insights can be gained from such studies, they are not considered further in the present review. Rather, it is argued here that we need to take a wider view of the referral and treatment process if our older patients are to benefit from the rapid developments that are occurring in gastrointestinal surgery. The first part of this review therefore considers the process by which older people with a gastrointestinal problem find their way (or fail to find their way) to appropriate surgical treatment. It is here that issues of equality of access and treatment are most likely to arise. The second part of the review argues that we need to improve the way that medical, surgical and anaesthetic services are organised so as to improve overall quality of care. For reasons of space, the biliary tract and pancreas have been excluded from the discussion.

Issues of equality in the preadmission period

SHOULD AGE BY ITSELF BE A BAR TO SURGERY?

Simple statistical analyses show an association between increasing age and increasing postoperative mortality. It is all too easy to conclude that this relation comes about because of loss of physiological reserve associated with the aging process, but it has been very difficult to prove that age in the absence of significant disease is a prognostic factor in gastrointestinal surgery or in a variety of other surgical specialties.

INTERACTIONS OF AGE, DISEASE, AND MODE OF REFERRAL

The prevalence of many diseases increases with age, and this applies both to gastrointestinal surgical pathology such as colorectal cancer and to concomitant medical disease. However, each elderly patient needs an individual assessment, and co-morbidities need to be proved and not simply assumed because of chronological age. To do otherwise is, by definition, ageist. Emergency surgery and advanced surgical pathology are both adverse risk factors in gastrointestinal surgery, and it is possible that more positive lay and professional attitudes to surgical treatment in old age might result in better outcomes through earlier referral. However, although it is true that for most general surgical conditions, the chance of being admitted electively decreases with age, the role of age-differences in pathology and atypical surgical presentation need to be considered as explanations for this phenomenon.

DO OLDER GASTROINTESTINAL SURGICAL PATIENTS PRESENT ATYPICALLY?

Several community based surveys of gastrointestinal symptoms have been carried out in people of different ages, but the findings are not entirely consistent. In the study by Agreus et al, a decrease in the prevalence of abdominal symptoms (except for reflux) occurred with age. Jones and Lydeard found a similar decrease in the incidence of dyspepsia with age, although it is of interest that older people in that survey were more likely than younger patients to consult a doctor about their symptoms. As part of a study of colorectal cancer, Curless et al assembled a group of age matched community controls who were free of disease. Among this control group, the prevalence of most lower gastrointestinal symptoms was higher in patients aged 70 years or more than in younger patients, (although the majority of the “young” group were aged between 60 and 69 years).

Studies of the association between age, delayed surgical presentation, and increased pathology in hospital based studies of colorectal cancer have also shown a lack of unanimity. Thus, Edwards et al reported longer delays in the diagnosis of older patients, but Curless et al were unable to show this, although they found that the profile of symptoms was different in the over-70s. Curless et al also found that patients over 70 years of age with colorectal cancer were more often referred by general practitioners to medical or geriatric units rather than to surgical units. In hospital based studies of acute abdominal pain, de Dombal et al showed that pre-operative diagnostic accuracy of the “acute abdomen” was poorest for the oldest patients, and in a proportion of older patients, even a perforated viscus may fail to produce clear-cut abdominal signs. de Dombal et al also observed that about a quarter of patients aged 70 years and over presenting with “non-specific” abdominal pain eventually turned out to have cancer.

AGE AND SCREENING PROGRAMMES

The advantages and disadvantages of screening for colorectal cancer are still being assessed. However, because the incidence and prevalence of colorectal cancer rises dramatically with age, it is important from a standpoint of equity and justice that any screening programmes that are adopted do not set arbitrary upper age limits.

ARE THE FOUR BASIC PRINCIPLES OF MEDICAL ETHICS RELEVANT WHEN REFERRING PATIENTS FOR GASTROINTESTINAL SURGERY?

It is now widely accepted that ethical principles related to medical and surgical treatment can be considered under four headings: (1) beneficence (do good); (2) non-maleficence (do no harm); (3) autonomy (respect the rights of the individual patient); (4) justice (consider the rights of an individual against those of society).

Ethics in the case of elderly patients is a particular problem because it is likely that the four basic principles of medical ethics are not applied consistently. The four principles are: (1) the rights of the individual patient; (2) the benefits of the individual patient; (3) the interests of the society; (4) the rights of the individual against those of society. The first three are often at variance with each other. The first and third suggest that colorectal cancer screening should be universal and that all older people should be offered screening, whereas the second and third suggest that only those with a family history, or those with a significant number of colorectal polyps should be selected for screening.

In the case of gastrointestinal surgery, in particular, the four principles are at variance with one another. The first and third recommend that all gastrointestinal symptoms should be treated surgically, whereas the second and third recommend that only those with a high likelihood of having a significant gastrointestinal problem should receive surgery. There is no doubt that the four principles are at variance with one another, but it is not clear which principle should be followed in the case of older patients.
beds, and the argument arises that a younger person should take priority. However, in many cases where there seem to be ethical dilemmas in surgical treatment, careful consideration of the four principles allows an optimal decision to be made with relative ease, particularly if we start with the principle (as did the 1992 BMA conference23), that “no patient should be denied medical diagnosis and treatment just because of advanced age”.

In his book, *Surgical Decision Making*,24 de Dombal points out that the principle of non-maleficence, if carried to its extreme, would mean that we never raised a scalpel to a patient. In practice, many of the debates about treating or withholding surgical treatment in an older gastrointestinal surgical patient will hinge on the decision as to whether an operation will do more harm than good. The decision may not be easy. For instance, a patient with lower gastrointestinal symptoms who is not investigated initially on the grounds that he or she “would not be fit” for elective surgery, may end up having an emergency procedure later on for obstructed colorectal cancer, when the chances of cure are much less. In balancing beneficence and nonmaleficence in such a patient, it should be remembered that surgeons specialising in colonic surgery tend to argue the merits of surgery, even in advanced colorectal cancer.25 26

The principle of autonomy also has a number of implications for the older gastrointestinal patient. In an adult patient who is mentally competent there is no upper legal age limit on autonomy25—it is the patient, not his or her relatives, who must be consulted. When an elderly patient is not mentally competent, then the relatives cannot give consent for treatment on the patient’s behalf. The physician, surgeon or anaesthetist must make his or her own decision based on “duty of care”, although the views of the relatives, particularly in regard to the patient’s likely wishes, should be sought.27

**Issues of quality: the structure and organisation of medical and surgical services for the elderly patient with gastrointestinal disease**

In an epidemiological context, Geoffrey Rose27 pointed out that reduction of risk in a population involves two strategies: a “targeted” approach which identifies a small number of high-risk individuals for specific treatment, and a “population” approach which attempts to achieve more modest gains in the majority of people by altering factors such as life style. Elsewhere28 I have argued that the “targeted” versus “population” analogy is also relevant in the hospitalised older surgical patient. Here, the “targeted” strategy is to focus on the immediate preoperative risk factors (the area that I have chosen to omit from this review) while the “population” strategy is to consider the organisation of medical, anaesthetic and surgical care, in other words to promote good practice and perform audit.

In auditing anaesthesia and surgery in the United Kingdom, the National Confidential Enquiry into Peri-Operative Deaths (NCEPOD)* has been very influential in recent years. The majority of deaths reported to NCEPOD occur in older surgical patients, and gastrointestinal surgical procedures, particularly those involving the lower gastrointestinal tract, have been discussed repeatedly in reports. NCEPOD has pointed to the importance of organising surgical and anaesthetic staff rota to ensure that staff of sufficient seniority are available to deal with high-risk patients out of hours. Other important recommendations have included increased emergency operating theatre facilities and adequate provision of high dependency and intensive care facilities.

Outside the activities of NCEPOD, standard setting and audit have occurred in the case of medical problems that lie at the interface of gastrointestinal medicine and gastrointestinal surgery, and many of these affect older people. A good example of this is the establishment of protocols and/or specialised units to deal with patients with gastrointestinal bleeding.

It has long been recognised that, compared with younger adults, older people are more likely to die and/or need early surgical intervention as the result of upper or lower gastrointestinal haemorrhage.29 30 In the case of upper gastrointestinal haemorrhage, United Kingdom guidelines drawn up in 199231 have provided guidance on clinical management, audit, and the type of cooperative structures that needed to be established. In some parts of the country, dedicated units for the treatment of upper gastrointestinal bleeding have been set up,32 33 while others have argued that a careful adherence to an agreed management policy can deliver low rates of mortality together with prompt surgical intervention without the need for a designated unit.34

Lower gastrointestinal bleeding is often regarded as less dangerous than upper gastrointestinal bleeding, but deaths still occur in older patients, and emergency surgery may be required.35 36 Although there are no nationally agreed policies for the management of lower gastrointestinal haemorrhage, Bramley et al37 in Aberdeen have argued the case for a standardised approach to diagnosis and treatment of lower gastrointestinal bleeding in the setting of a dedicated gastrointestinal bleeding unit which also treats upper gastrointestinal bleeding.38 Of 1602 patients referred to that unit over a two year period, 1098 had confirmed upper gastrointestinal bleeding while 252 had confirmed lower gastrointestinal bleeding. In the latter group, there were 102 significant bleeds in patients over 60 years of age, and 12.6% of these underwent emergency surgery.

Other interesting developments are related to “super-specialists” in different fields of gastrointestinal surgery, but particularly in colorectal surgery. Such developments are not new as St Mark’s Hospital in London can trace its interest in diseases of the colon and rectum to 1835, and the American Board of Colon and Rectal Surgery was founded in 1949.39 However, specialist centres in colorectal surgery are now being set up much more widely in the United Kingdom, Europe and North America, both to deliver treatment and to train surgeons. The elderly are likely to gain from such specialisation as malign and benign conditions of the lower gastrointestinal tract tend to be more common with age, and surgeons working in such centres seem to be very willing to tackle complex problems in older people. Even where cure is not possible, it is arguable that palliation is best achieved by surgeons, radiotherapists and physicians with a specialist interest.40 The use of new technology, such as laparoscopic intervention for the lower gastrointestinal tract, can also usefully be evaluated in such centres.41

The arguments against super-specialisation include the “de-skilling” that can occur among general surgeons, and practical difficulties in moving patients from more remote areas to specialist centres, particularly when audit suggests acceptable surgical results in the home unit.42 Recent publications have discussed the links between general surgery and gastrointestinal surgery, and have looked at the advantages and disadvantages of super-specialisation in upper gastrointestinal surgery and in laparoscopic techniques.43 44

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*NCEPOD reports are available from The Administrator, National Confidential Enquiry into Peri-Operative Deaths, 35–43 Lincoln’s Inn Fields, London WC2A 3PN.*
Conclusions

This brief overview has argued that there is more to gastrointestinal surgery in older patients than the immediate preoperative assessment and the immediate postoperative outcome, important though both of these are. Gastroenterologists, other physicians, surgeons, and anaesthetists all need to take a much wider view of the older gastrointestinal patient, which will encompass the preadmission period, and the general standards of care provided in hospital.

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