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Nationwide questionnaire survey of the contemporary surgical management of pancreatic cancer in the United Kingdom & Ireland☆

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Abstract This paper reports the results of a questionnaire-based survey of pancreatic surgical specialists in the United Kingdom addressing aspects of staging, resection volume and outcome.

A postal survey was undertaken of the 517 members of the Association of upper Gastrointestinal Surgeons of Great Britain and Ireland (AUGIS). 57 surgeons undertook pancreatic resection from 162 overall respondents. Cross-checking with the list of members of the Pancreatic Society of Great Britain and Ireland yielded 64 pancreatic surgeons. 734 pancreaticoduodenectomy (PD) were reported by respondents compared with 822 procedures according to Government maintained Hospital Episode Statistics.

The modal resection volume performed per annum was 6–10. There were 24 in-hospital deaths in 732 resections (3%) mortality. For individual respondents the modal percentage mortality was 5% (0 to 16%). All clinicians with mortality rates in excess of 10% did less than 10 resections per annum. Respondents favoured ''amylase rich discharge beyond 7th post-operative day'' as optimal for definition of post-resection pancreatic fistula.

Accepting the limitations of questionnaire surveys, the results provide an important overview of pancreatic surgical practice: pancreaticoduodenectomy is carried out by a range of specialists, lower volume resectionists appear to have poorer outcomes and this study shows widespread agreement on optimum terminology for post-operative pancreatic fistula.

Introduction

Pancreatic cancer is an important health care problem. In the United Kingdom, pancreatic cancer is the 6th most common cancer with an incidence of 12 per 100,000.[1] As the number of new registrations per annum is equivalent to the number of deaths, the overall survival remains in the order of 12 months from time of diagnosis.[1] Further,

☆ A paper based on this study was read at the annual meeting of the Pancreatic Society of Great Britain and Ireland, Birmingham 2005 and is due for presentation at the Annual Meeting of the American Hepatobiliary Association, Miami 2006.

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there is evidence that pancreatic cancer is increasing in incidence.[2] Surgical resection is the only treatment that is associated with prolonged survival.[2] There is evidence that outcome after pancreatic cancer surgery is better in specialist, high-volume units which report operative mortality rates of less than 5%.[3–8] In the United Kingdom, as in many other countries, this evidence has led to a drive towards concentration of pancreatic cancer surgery in specialist units. However, despite this specialisation there remains no general consensus on many aspects of management including optimal disease staging pathways and the role of pre-operative biliary drainage. Critically, this variation in practice may extend to details of the operative conduct of pancreaticoduodenectomy and to the use of terminology defining peri-operative complications.

This paper reports the results of a path finding questionnaire-based survey addressing aspects of practice volume, resection volume and outcome. The ''snap-shot'' questionnaire approach is also utilised to obtain views on technical aspects of pancreaticoduodenectomy and preferred terminology for post-operative complications.

Methods

Study design and population

A postal questionnaire survey was undertaken in 2005 of the 517 members of the Association of Upper Gastrointestinal Surgeons of Great Britain and Ireland (AUGIS). AUGIS is the principal forum in the United Kingdom for surgeons with a declared interest in upper gastrointestinal surgery. Written permission was obtained from the president of AUGIS in order to gain access to the membership database and to circulate questionnaires. The questionnaires were bundled together with the quarterly AUGIS newsletter. The study was closed for recruitment 8 weeks after the date of the mailshot. A total of 162 questionnaires were returned yielding a response rate among participating clinicians of 31%. Of these 162 respondents, 57 surgeons stated that they undertook pancreatic resection. This figure was cross-checked with the list of members of the Pancreatic Society of Great Britain and Ireland. The Pancreatic Society membership is comprised of individuals with a declared interest in diseases of the pancreas and thus includes physicians, basic scientists and other interested groups in addition to surgeons. However, male surgeon members are denoted by the suffix ''Mr'' and their declared affiliation to a department of surgery while female surgeons were identified by their suffix Ms/Miss or Mrs. Using these cross-checks, a total of 64 pancreatic surgeons were identified from the Pancreatic Society membership of 265. The senior author of this study was excluded from participation.

A further cross-check was carried out by comparing the summated numbers of pancreaticoduodenectomy (PD) procedures stated as being carried out by respondents with Data from Hospital Episode Statistics (HES). A total of 734 PD were reported by respondents to this questionnaire (for the calendar year 2004). This compares with 822 PD procedures for the financial year 2003/2004 for NHS hospitals in England according to HES[9] (it should be noted that according to HES 1 of 822 PD was carried out as a day case).

Questionnaire design and analysis

This is a four part questionnaire designed to obtain a ''snapshot'' overview of aspects of clinical practice in pancreatic cancer. The four components are listed separately as follows:

1. *Clinical profile questions:* clinical practice parameters such as case volume per clinician, specialist interest of clinicians and their in-hospital mortality for the calendar year 2004 from pancreaticoduodenectomy.
2. *Staging investigation questions:* assess the role of staging investigations in pre-operative assessment.
3. *Technical (operative details):* to identify routine procedural steps during and prior to pancreaticoduodenectomy such as laparoscopy/laparoscopy ultrasound prior to surgery, intra-operative frozen sections from tumour, preferred technique for restoration of pancreatic duct-enteric continuity, and definitions used for pancreatic fistula. This last category has proved particularly problematic as there is no generally agreed standardised definition for post-operative pancreatic fistula.[10,11]
4. *Aspects of post operative care:* to investigate practice in referral for chemotherapy after surgery, methods of surveillance for tumour recurrence after resection and also to seek information on the registering of outcome results in a national register.

All results were anonymised for collation and analysis. The study was closed for recruitment 8 weeks after the date of mailshot. Responses to questionnaires were transcribed onto an electronic database (Microsoft Excel, Microsoft Corporation, Redmond WA) for analysis.

Ethical approval

The study was approved by the Central Manchester Research Ethics Committee and registered as a full clinical study with the Research and Development (R&D) office of the Manchester Royal Infirmary.

Results

Clinical profile

There was considerable variation in the terminology used by surgeon respondents to describe themselves. Fifteen (26%) used the term HPB $\pm$ transplant surgeon with the second most frequently stated category being General Surgeon with HPB interest (10 surgeons [18%]). Table 1 shows the responses categorised by whether or not surgeons carried out pancreaticoduodenectomy.

Case volume

The total number of pancreaticoduodenectomy procedures done by all respondents is 734.

The modal case volume performed per annum by respondents was 6–10 procedures (Fig. 1). Thirteen (23%) respondents undertook more than 15 procedures each per annum and 1 undertook more than 25.