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REVIEW

Endoscopic retrograde cholangiopancreatography: is the centre better? The case against centralisation of ERCP services

A Frank Muller

Correspondence to
Dr A Frank Muller,
Department of Gastroenterology,
The Kent & Canterbury Hospital,
Ethelbert Road, Canterbury,
Kent CT1 3NG, UK;
Andrew.muller@nhs.net

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ABSTRACT

More than 48 000 endoscopic retrograde cholangiopancreatographies (ERCP) are performed in the UK per annum; the majority within district general hospitals. The proposal for centralisation of ERCP services is based on evidence that technical success, length of stay and complication rates are related to the numbers of procedures performed. Local units wishing to continue their ERCP practice, must demonstrate that they are performing sufficient numbers of procedures in a safe, timely and competent fashion.

ARE LOCAL HOSPITALS PERFORMING SUFFICIENT NUMBERS OF PROCEDURES?

The national confidential Enquiry into Patient Outcome and Death (NCEPOD)[1] highlighted issues concerning safety in endoscopic procedures including endoscopic retrograde cholangiopancreatography (ERCP). Although it did not identify a relationship between the numbers of procedures performed and performance, it found that in 11% of procedures the senior endoscopist performed fewer than 50 ERCP per year.[2–4]

Published studies have shown a variation in ERCP workload in different institutions both in the UK[1 5–7] and internationally.[8–10] Varadarajula *et al*[8] analysing the outcome of nearly 200 000 ERCP performed in the USA over a 3-year period between 1998 and 2001 found the median number of procedures performed in institutions over that period was only 49, with only 5% performing more than 200 per year. In a large Swedish study Enochsson *et al*[9] reviewed over 10 000 ERCP performed by 177 endoscopists, noting that 55 performed 10 or fewer procedures over a 2-year period. Cote *et al*,[10] in an assessment of ERCP practice in the USA, found that 40% of more than 1000 American Society for Gastrointestinal Endoscopy members were performing fewer than 50 procedures per year. Cotton[11] has recently highlighted the ongoing problem of low volume ERCP endoscopists in America, stating that now is the time for improvements in practice to be made. Perhaps reassuringly within the UK, Green *et al*[3] noted in a British Society of Gastroenterology survey of ERCP practice that 84% of UK ERCP endoscopists were performing 75 or more procedures per year.

The British Society of Gastroenterology ERCP stakeholders group[4] recommended a combination of audit, standards and strategy to improve the outcomes of ERCP practice and these were adopted in full by the Joint Advisory Group (JAG) in gastrointestinal endoscopy.[12] JAG has provided guidelines for trainees wishing to obtain specialist accreditation in ERCP, and confirmed that these criteria should be the same for those continuing in practice and include: a complication rate of less than 5%; a satisfactory completion of the intended procedure for grade 1 cases of over 80% (defined as all standard biliary procedures);[13 14] and that individuals should perform more than 75 cases per 12 months. Green *et al*[4] also proposed that units performing fewer than 150 procedures per annum should join a network of local hospitals to allow high standards to be maintained.

These guidelines have led to local units, in part associated with hospital

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trust mergers, rationalising their service. Local units have joined together, some experienced colleagues have given up their ERCP practice to concentrate on other clinical demands—such as bowel cancer screening, with the remaining specialists performing an increasing number of procedures.

CAN LOCAL HOSPITALS PERFORM ERCP SAFELY AND EFFICIENTLY?

For an ERCP service to remain local for its population, units and individual endoscopists need to audit their performance to enable them to provide evidence to commissioners that these procedures can be performed safely and efficiently with a low complication rate and in a timely manner.

Varadarajula *et al*[8] demonstrated a relationship between the volume of procedures and outcome—both with respect to length of stay and procedural failure. Enochsson *et al*[9] found that although the overall rate of complications was low, there did appear to be an increased peri-operative complication rate in low volume when compared to intermediate volume (200–500 procedures/year) and high volume hospitals (>500 procedures/year), although interestingly, the study also highlighted a higher rate of pancreatitis in the high volume hospitals—perhaps as a reflection of case mix. By contrast Williams *et al*,[15] examining complications of ERCP prospectively in five English regions, found a higher risk of pancreatitis in district as opposed to university hospitals. Those studies found no relationship between procedures performed and mortality, although thankfully the numbers of such cases were small. Bodger *et al*[2] found the mortality risk for these procedures was comparable across English hospitals.

Further evidence of a better outcome in units performing higher volumes of procedures is supported by Kapral *et al*,[16] who demonstrated greater technical success and fewer complications by endoscopists performing more than 50 procedures per year, and Loperfido *et al*[17] when more than 200 procedures per year were performed.

Within the UK, a number of studies has reported on the success, safety and complication rates of ERCP, showing that they meet the standards set by JAG and that they compared favourably to outcomes from international centres.[5–7 18]

WHAT FACILITIES DO DISTRICT HOSPITALS REQUIRE TO RUN AN ERCP SERVICE?

District hospitals generally have all of the facilities to provide a therapeutic ERCP service, including access to a specialist radiological diagnostic (such as magnetic resonance cholangiopancreatography) and biliary intervention and to endoscopic ultrasound.

Local units should be able to perform most level 1 and 2 procedures (including large bile duct stone extraction, treating hilar strictures and benign biliary strictures),[13] whereas most grade 3 procedures should be referred to tertiary centres.

Individual endoscopists and units should audit their performance to confirm they are meeting the recommended standards. All units should strive to improve the quality and standards of service.

The evidence from NCEPOD[1] and the recommendations by JAG[12] have resulted in a significant change in ERCP practice in local hospitals. Trust mergers, together with a rationalisation of ERCP provision have already resulted in a concentration of local services, which is likely to continue to evolve. Low volume ERCP endoscopists should no longer be providing a service.

If local units are able to provide a timely ERCP service with sufficient volume of procedures that meet or improve on the recommended national standards, the need for further centralisation may be unnecessary.

Competing interests None.

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