

Occasional viewpoint

Structured training and assessment in ERCP has become essential for the Calman era

Introduction

Endoscopic retrograde cholangiopancreatography (ERCP) is one of the most difficult endoscopic procedures to learn. It has a significant complication rate even when undertaken by experienced practitioners. During the procedure, patients have a right to expect a competent practitioner to be in charge as complications may result in cholangitis, bleeding, pancreatitis, duodenal and biliary perforation, and consequent death.¹ However, in the United Kingdom, there are no guidelines either for the training required by these doctors or the assessment of proficiency.

This issue has become increasingly important. The use of ERCP has increased with the advent of laparoscopic cholecystectomy^{2–3} and the minimal access management of gallstones.⁴ Developments such as magnetic resonance imaging (MRI) are likely to reduce the number of purely diagnostic ERCPs needed, leaving only the more difficult therapeutic procedures to be done using this method. It has become increasingly obvious that competence in ERCP reduces complications,⁵ maximises therapeutic potential and reduces costs incurred in unsuccessful and repeated procedures. Finally, time available for ERCP training within the confines of specialist registrar training schemes has decreased.

In the past, recommendations (mainly from the USA) have emphasised the number of procedures that a trainee needs to master in order to achieve competence. Often, these recommendations represent a pragmatic, consensus view of the number of procedures a trainee could realistically expect to perform under supervision, rather than the number actually needed to achieve a definitive level of success—for example, an 80% cannulation rate of the desired duct.⁶ A survey of the American College of Physicians suggests that 50 ERCPs are sufficient⁷ and guidelines from American Society of Gastrointestinal Endoscopy (ASGE) propose that 35 ERCPs are enough.⁸ In practice, it seems that as the number of endoscopic procedures performed by trainees increase,^{9–10} there is a concomitant rise in the number of procedures perceived as necessary to attain a high level of proficiency.

Arbitrary guidelines based on a statutory number of procedures are not a practical measure of the level of competence achieved and the assessment process needs to be more objective if the use of ERCP is to be controlled and optimised. The need for formal guidelines has recently been acknowledged by the ASGE in its recommendations for level 3 Advanced Training and Certification in gastrointestinal endoscopy. Although they still suggest a threshold number of procedures (100), they recommend that the ability to cannulate the common bile duct deeply 80% of the time is used as a further assessment measure.¹¹ A recent prospective evaluation estimated that it took around 180–200 ERCPs to achieve this level of proficiency^{12–13} and an additional period of training has been suggested as one way of ensuring that such skills are acquired.¹⁴ Similarly, we feel that the current ad hoc apprenticeship in the UK, with its assumed level of competence, needs to be formalised into a training and assessment process with a standardised form of accreditation.

In the past decade we have trained both physicians and surgeons in ERCP in a unit which undertakes more than 500 ERCPs annually, and we have run two ERCP teaching courses each year for the past five years. Based on our experience, in this paper we examine the current problems for both the trainee and trainer, and attempt to formulate pragmatic criteria for training today.

The trainee's perspective

The ERCP trainee faces several problems. They must already be a competent therapeutic upper gastrointestinal endoscopist and must have gained a training place in an ERCP unit. With demand for places in such units exceeding supply, trainees may end up sharing teaching slots, to the detriment of all.

Once the trainees begin to work on patient lists, they may find that the hands on time available for them to acquire skills may be restricted if the unit is busy. Even when a trainee has a chance to use an endoscope, it can be difficult to avoid either giving up too early and, therefore, learning nothing from difficult cases, or not relinquishing the endoscope to the trainer when the procedure is not progressing as it should. Furthermore, with the trainer constantly present, it can be difficult to learn to interpret the radiological images independently and determine which therapeutic manoeuvres, if any, are appropriate.

Finally, once trained, fledgling ERCP practitioners need continued access to patient lists to maintain their skills.

The trainer's perspective

Teaching in ERCP is also problematic for the trainer. Presently, there is no viable substitute to training on patients despite the theoretical attractions of simulators ranging from plastic piping¹⁵ to computer simulation,¹⁶ and animal models.¹⁷ Selecting trainees with the necessary hand to eye coordination to learn “on the job” can also be difficult.

The trainer must be a good teacher and communicator, and be able to analyse their own technique and impart it to others. It can be difficult for the trainer to be patient with the trainee and knowing when to intervene is as difficult for the trainer as it is for the trainee, requiring an element of trust and friendship between the two. Many laparoscopic surgeons have now been on the Training the Trainers courses organised by the Royal College of Surgeons which seem to be very helpful.¹⁸

Assessing progress is an essential element of the training process. Each trainee has a different learning curve; some trainees are unteachable and should be counselled, whereas others will learn the procedure very quickly and easily become as competent as their trainer. Ultimately, the speed at which each trainee will be able to move safely onto more invasive therapeutic manoeuvres varies greatly.

The trainer must also think carefully about the organisation of training within working lists. They must try to guarantee that each procedure is completed successfully

Abbreviations used in this paper: ERCP, endoscopic retrograde cholangiopancreatography; MRI, magnetic resonance imaging; HBP, hepatobiliary/pancreatic.

within the allotted time while trying to ensure that each list of patients is used for teaching, however many patients it contains. Teaching undoubtedly reduces the success rate of the procedure, as the ampulla can be traumatised and oedematous, and the patient irritable, by the time the trainer takes over the endoscope from the trainee. This highlights two problems. Firstly, is it appropriate to use a patient as a training case when it is vital to carry out the ERCP successfully, and should this be explained to the patients as part of the consent process?

ERCP training must be seen as part of a broader process. The training should impart both the essential technical skills and a wider understanding of the indications and alternatives to ERCP, in order to prevent its indiscriminate use.

Recommendations

CRITERIA FOR THE UNIT

The ideal training unit should have several video duodenoscopes and the ERCPs should be performed in a dedicated x ray suite linked to the endoscopy unit. The endoscopy unit should be linked to the surgical, medical and radiology units dealing with other aspects of hepatobiliary/pancreatic (HBP) disease. This gives trainees a balanced overview of the management of such diseases and the indications for invasive procedures, as well as the technical skill to perform them. It is helpful if the unit is run by consultants with an interest in HBP disease, with each trainer being responsible for at least 200 ERCP cases each year. A radiologist with an interest in interventional HBP radiology should also be linked to the unit and there should be weekly meetings to allow for interdisciplinary discussion of the more difficult cases.¹⁴

CRITERIA FOR THE TRAINEE

Trainees should be competent therapeutic upper gastrointestinal endoscopists who have performed at least 100 upper gastrointestinal endoscopies and have achieved a success rate for duodenal intubation approaching 100%.^{11 19} In addition, they should be a year 5 or 6 Calman trainee and should intend using ERCP throughout their careers.

The trainee should attend at least one patient list per week for one year in order to achieve 200 ERCPs within that time. Throughout this time, they should keep a computerised log book of numbers of procedures and success rates for cannulation of common bile duct and pancreatic duct, deep cannulation, sphincterotomy, stone removal, stenting, etc., similar to the recently introduced surgical procedural record.²⁰ This allows for three monthly assessment of their progress by the trainer, and permits accurate identification of weak spots which could then be easily tackled.

CRITERIA FOR THE TRAINER

The trainer should be an ERCP practitioner with a personal success rate well in excess of the 80% competency rate. They must be prepared to teach, and should attend a training for trainers course or its equivalent. Realistically, the trainer should resist any pressure to teach more than one trainee per 200 ERCPs performed each year. A partially trained ERCP practitioner is of little use to a busy department.

As not all medical or surgical trainees with an interest in gastroenterology can or should be trained in ERCP, the establishment of a selection process is vital. The current situation is not viable, as any trainee who is working for a consultant performing ERCPs can attend the ERCP patient lists for the duration of their attachment to that

consultant. It is no longer possible to teach ERCP to all trainees and it is not beneficial for patients.²¹

Once the training process starts, a formal assessment of trainee competency should be made. This requires standard guidelines for training which would be structured around the trainee's log book, and based on objective criteria such as an 80% deep cannulation rate. This would allow each trainee's progress to be plotted on a learning curve.¹³

REQUIREMENT FOR A CENTRAL TRAINING BODY

An organisation, such as the British Society of Gastroenterology, which has the involvement of interested physicians, surgeons and radiologists, should be responsible for the assessment and accreditation of teaching units. Criteria for competence should be developed to allow trainees to be assessed. Each trainee should be registered at the start of their training by their teaching unit and when training is satisfactorily completed, the trainee's name could be entered on a central register which could then be accessed by prospective employers.

Finally, the teaching skills of ERCP trainers need to be improved. Many have had no formal training in teaching practical procedures. Courses similar to the Training the Trainers courses run by the Royal College of Surgeons should aim to cover the rudiments of teacher training, skills teaching, interpersonal skills, and assessment and evaluation methods.

Conclusion

It has become increasingly clear that more than 200 ERCPs are required to achieve a high level of proficiency^{6 12 22} and that complication rates fall as practitioners become more experienced.^{5 23} With the advent of laparoscopic surgery, a rise in patient expectations, the changes in registrar training programmes, and the increasingly therapeutic nature of ERCP, it is now imperative that some form of consensus is achieved over how ERCP should be taught, who should be trained and what form of assessment should take place.

Each year, an estimated 50 in 100 000 people need ERCP. We feel that the creation of small units in district general hospitals^{2 24} is less satisfactory than concentrating experience and training within larger units that serve populations of at least 500 000 people. Within these larger units, experience should be concentrated in one or two interested physicians, surgeons or radiologists, who are preferably linked to HBP units. The number of trainees who can be taught by each unit and are needed to fill predicted posts can then be calculated, and the problems of their selection tackled.

The development of laparoscopic surgery has led the surgical Royal Colleges to create a series of courses designed to introduce the techniques involved and to train those responsible for performing them.¹⁸ Therefore, it seems appropriate to propose that a similar system for the development of guidelines, and a training programme, be established for the equally invasive process of ERCP. We feel, therefore, that all these aspects would best be tackled under the auspices of a recognised central body.

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