Scope for improvement: a toolkit for improving the upper gastrointestinal bleeding service

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Accepted 17 May 2011

Introduction

Approximately 70 000 patients are admitted to hospital each year in the UK because of acute upper gastrointestinal (UGI) bleeding, of whom 1 in 10 die as a direct result of bleeding. In recent years, there has been a revolution in the management of these patients, using endoscopic treatment of ulcer bleeding by injection, coagulation, or clipping and of varices by banding or gluing. When these measures are unsuccessful, trans-arterial embolisation may stop ulcer bleeding while TIPS may arrest bleeding from varices. Clearly the earlier these treatments can be applied in actively bleeding patients the better.

The evidence base for managing acute UGI bleeding is well established and forms the basis of current guidelines.^{1 2} In the large audit undertaken by the National Blood Service and the British Society of Gastroenterology it was found that not all units comply with guideline recommendations. Furthermore, while 60% of admissions for UGI bleeding in the UK occur out of normal working hours, only 55% of hospitals provided an out-of-hours emergency endoscopy service. Access to emergency interventional radiology is even more limited. There is therefore a large gap between published recommendations and the actual levels of service provision across the UK.

The Scope for Improvement project aspired to define a range of service arrangements to manage patients presenting with UGI bleeding. The report can be used by hospitals to support re-design of services to provide 24/7 diagnosis and management for patients developing UGI bleeding. It can be accessed at <http://aomrc.org.uk/projects/upper-gastrointestinal-bleeding-toolkit.html>. This paper describes the development and key recommendations of the Scope for Improvement project.

Development of the report

The project was overseen by a steering group representing relevant professional bodies (the British Society of Gastroenterology, Royal College of Radiology, Association of Upper Gastrointestinal Surgeons, Royal College of Physicians) and patients. The project was funded by the National Patient Safety Agency and the Royal College of Radiologists. The Clinical Effectiveness and Evaluation Unit of the Royal College of Physicians was commissioned to carry out the project and it was managed by the independent healthcare management company 'pH Associates'.

An initial survey of service provision was undertaken in a range of hospitals: major teaching hospitals in an urban setting; district general hospitals in urban and rural settings; and smaller 'remote and rural' hospitals. Some of these provided comprehensive 24/7 cover for acute UGI bleeding; others did not. Service provision was ascertained by telephone interview of key personnel in order to define day time and out-of-hours arrangements for endoscopy, surgery and interventional radiology. This included a review of medical, nursing and technical support, impact upon other services (particularly out-of-hours general medical provision), business cases and involvement of commissioners. Once the findings had been collated and summarised, focus groups comprising gastroenterologists, surgeons, interventional radiologists, nurses, patients, managers and commissioners distilled these findings and constructed a series of recommendations. After further review by the steering group, these recommendations formed the basis of the report.

Recommendations

It was clear that 'one case does not fit all'. The issues confronting a busy inner city hospital dealing with a large number of bleeding patients (as inpatients as well

as patients admitted with bleeding) are clearly different to those of more modestly sized rural district general hospitals that might have fewer endoscopic staff. The former institute may be in the position to provide comprehensive 24/7 endoscopy, interventional radiology and surgery. Their medical teams may be able to specialise, forgoing general medical duties in order to concentrate on patients with acute gastrointestinal haemorrhage.

In contrast, the less frequent need to undertake out-of-hours urgent care for bleeding patients in the smaller hospital, combined with an inadequate number of staff to provide out-of-hours cover and the need to provide general medical cover, make it unreasonable for such a comprehensive service to be developed in less busy hospitals. The groups therefore concluded the following:

1. Any patient developing acute UGI bleeding should be managed according to a series of minimum standards that should apply regardless of the hospital setting to which the patient presents.
2. A 'tool kit' should be developed that can be modified locally in order to improve current inadequacies, develop a comprehensive service and provide a framework for evaluating progress.
3. Example business models, suitable for different contexts should be freely available.

These three conclusions underpin the 'Scope for Improvement' document. Nine minimum standards provide detailed recommendations which, if fully implemented, will significantly improve the care of patients.

While readers should refer to the full document (<http://aomrc.org.uk/projects/upper-gastrointestinal-bleeding-toolkit.html>), the following provide a summary of the key recommendations:

1. *There will be a nominated individual with the authority to ensure implementation by the contracted provider.* Leadership for the bleeding service was thought to be crucial. The nominated lead will be a medical or surgical gastroenterologist who will regularly map existing arrangements and undertake improvement cycles. This role requires vision and authority. The lead must be able to engage with the entire team (all medical specialties, nurses, clerical and administrative staff, managers etc) and be able to report through to the executive board.
2. *Contracted providers will ensure the minimum service is adequately resourced.* Managerial support with appropriate access to a budget is essential.
3. *All patients with suspected upper gastrointestinal bleeding should be properly assessed and risk scored on presentation.* Risk assessment informs not only triage decisions and appropriate direction of patients to high dependency or general wards but also audit

of the service. Colleagues in acute medicine and high dependency must therefore all be involved in the care of these patients.

4. *All patients should be resuscitated prior to therapeutic intervention.* Protocols, including ones for safe use of blood products, should be developed at local level to guide junior staff.
5. *All high risk patients should be endoscoped within 24 hours, preferably on a planned list.* The UK audit showed that only approximately 50% of patients are currently endoscoped within 24 h of admission, despite all published guidelines advocating endoscopy within 24 h. Early diagnosis makes sense for the patient and will improve hospital efficiency.
6. *For patients who require more urgent intervention for endoscopy, interventional radiology or surgery formal 24/7 arrangements must be available.* This requires services to be developed at local level, or for there to be the facility to transfer patients to centres that do have this capability. The development of formal 'bleeding networks' has specific challenges. These include funding, staffing (the referral centre may be staffed by staff based in that institution only, or have support from staff from referring hospitals), protocols for safe transfer (agreed with ambulance services), and occasionally travel by the out-of-hours endoscopy team to referring hospitals when the patient is unfit for transfer.
7. *The necessary team, meeting an agreed competency level, should be available throughout the patient pathway.*
8. *Each stage of the patient pathway should be carried out in an area with appropriate facilities, equipment and support, including staff experienced in the management of upper gastrointestinal bleeding.* Local circumstances will determine whether there are sufficient patients to warrant a bleeding unit (or area) and where out-of-hours endoscopy is best conducted (usually within the endoscopy suite or a general surgical theatre). Close involvement of anaesthesia staff is essential as they may be required to support critically ill acutely bleeding patients and help protect their airway during emergency endoscopy.
9. *All hospitals must collect a minimum data set in order to measure service provision against auditable outcomes.* The development and review of a minimum data (including risk stratification) should be the responsibility of a 'bleeding MDT'.

Conclusions

The report of the 'Scope for Improvement' project is not intended to be another guideline. It recognises the

complexity of managing patients with gastrointestinal bleeding and the very different contexts within which a service for these patients has to be created. It aims to help hospitals achieve a basic standard of care for all patients presenting with acute UGI bleeding, by defining the standards and by providing a toolkit that will enable them to be achieved. It strongly encourages effective clinical leadership, teamwork and audit of performance. The project has the support of the relevant professional societies, Royal Colleges, the National Patient Safety Agency and patients. Widespread adoption of the recommendations will lead to better and more equitable care of patients in this high risk group, and greater hospital efficiency.

Competing interests None.

Provenance and peer review Not commissioned; internally peer reviewed.

References

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