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The dissemination of consensus recommendations on the management of Canadian patients with non-variceal upper gastrointestinal bleeding

Submission date 12/08/2008	**Recruitment status** No longer recruiting	[X] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [_] Record updated in last year
Registration date 13/08/2008	**Overall study status** Completed	
Last Edited 06/03/2009	**Condition category** Digestive System	

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
IR2-90381

Study information

Scientific Title
The dissemination of consensus recommendations on the management of Canadian patients with non-variceal upper gastrointestinal bleeding: a national cluster randomised trial of a multifaceted tailored implementation strategy

Acronym
REASON-II trial

Study objectives
A multi-faceted educational intervention results in increased adherence to guidelines in the management of patients with non-variceal upper gastrointestinal bleeding (NVUGIB).

Ethics approval required
Old ethics approval format

Ethics approval(s)
General Research Ethics Board approved on the 18th September 2007.

Study design
Cluster randomised controlled trial

Primary study design
Interventional

Secondary study design
Randomised controlled trial

Study setting(s)
Hospital

Study type(s)
Treatment

Participant information sheet
Not available in web format, please use the contact details below to request a patient information sheet

Health condition(s) or problem(s) studied
Non-variceal upper gastrointestinal bleeding

Interventions
Control group:
Health care professionals in control clusters will receive the published guidelines and corresponding algorithm on managing NVUGIB patients.

Experimental group:
In addition to the guidelines and published algorithm, a multifaceted intervention will be delivered to the health care professionals at those institutions (hospitals are the clusters or unit

of randomisation) in the experimental group. A number of aspects of the intervention are innovative and are detailed below:
1. Determination of barriers: we carried out a careful analysis of existing barriers to the uptake of guidelines in NVUGIB nationally, allowing us to identify specific corresponding strategies
2. Tailored nature of the intervention: tailoring of the multifaceted intervention to a given institution's needs will include any combination or all of the above strategies, based on responses to a needs questionnaire administered at baseline to clusters receiving the intervention (also allowing a priori adjustment of the findings)
3. Feasibility: although elaborate in its design, the components of the intervention are simple, enhancing feasibility and favouring its wide generalisability in a real-world setting. The dissemination of the literature as pre-existing published documents, workshops and educational activities are components commonly rolled-out as part of CME-type initiatives with the proviso that the target audience be the entire health care providing team (including, for example, nurses and hospital pharmacists, not just MDs). The audit/feedback can be instated as part of ongoing quality initiatives.
4. Process evaluation: a process evaluation is embedded in the intervention so that even if results of the evaluation will reflect its implementation as a whole, we plan to estimate the utility of its individual components on a validated 5-point Likert scale of agreement, that may have ultimately affected outcomes based on written notes taken by the staff implementing the intervention within each cluster group and a mail-out questionnaire to be sent out at the end of the study. Factors to be sought will include agreement with the guidelines, communication within each institution, amount of participation in the project, and time taken for discussions on the guidelines and their implementation, use of the components of the intervention, and length of the intervention.

Timing of intervention components:
In order to provide initial feedback data, baseline clinical variables corresponding to primary and secondary adherence endpoints and patient outcomes for a period of care antedating the study will be collected by reviewing charts of the most recent 20 consecutive patients (20 cases + 2 independent duplicate entries for validation purposes) treated up to two months prior to randomisation. Site-specific needs and barriers distributed to intervention sites only (week 1) will assist in tailoring the strategies for each intervention site. Intervention and control site lead investigators will receive copies of the published guidelines and treatment algorithm at randomisation. Intervention site investigators will be asked to share these with the entire health care team (primary care, ER, ICU MDs, surgical and GI endoscopists, nurses, and pharmacists at their centre who care for patients with NVUGIB).

The intervention sites (not the controls) will also receive (week 2) a templated one-page report containing quantitative displays of the site's baseline profile of adherence to guidelines and patient outcomes that will also be benchmarked (with no ranking) to the amalgamated performance of intervention and control sites combined. This standardised feedback will be repeated based on follow-up clinical data collection of 23 patients at each interval, and circulated at months 4 and 8.

Both control and intervention sites will receive a final feedback report at the end of the study, at month 12. In the intervention sites during month 1, there will be two multidisciplinary guideline education sessions (two-45 minute case-based small group interactive workshops facilitated by local experts, for all members of the health care provider team, i.e.: the same primary care MDs, specialists, nurses, and pharmacists identified above), as well as distribution of the Rockall stratification scoring system. At month 4, a 2-hour collaborative care workshop will be organised with the aim of producing an institution-specific management algorithm using the published generic algorithm as initial template. Dissemination of the algorithm will be facilitated through

regular meetings or e-mailing at bi-monthly intervals till the end of the study, and it will be displayed in appropriate locations of the targeted institutions in poster format. Step-wise introduction of the different strategies (even though not all sites may receive all the components) should facilitate teasing out of their incremental effect.

Intervention Type
Other

Phase
Not Applicable

Primary outcome measure
Because of their clinical importance, we have identified the combination of the two main guidelines that apply to the high-risk patient population as primary outcomes which is the adherence to both guidelines G10 and G17. G10: "mono-therapy with injection or thermal coagulation is an effective haemostatic technique for high-risk stigmata; but, the combination is superior to either alone", and G17: that "an intravenous bolus followed by continuous-infusion proton-pump inhibitor is effective in decreasing rebleeding in patients who have undergone successful endoscopic therapy". Adherence to G10 and G17 is defined as the proportion of patients with bleeding ulcers exhibiting high risk stigmata (active bleeding, visible vessel, and adherent clots) treated endoscopically with injection followed by thermal therapy and who thereafter also receive an IV PPI for a correct indication at a correct dosing (high dose pantoprazole 80 mg bolus followed by 8 mg/hour following the endoscopic therapy for a total of 72 hours (both ±12 hours), in patients undergoing successful endoscopic haemostasis for a high risk bleeding ulcer). As part of a pre-planned sensitivity analysis, the endoscopic therapy criterion will be broadened to accept performance of successful endoscopic haemostasis using either thermal or clips application alone, in keeping with persistent controversy and evolving data. The pharmacotherapy criterion is the definition of appropriate use we adopted in the nation-wide DURABLE audit of in-hospital PPI prescribing.

Secondary outcome measures
1. Adherence to the different guidelines are defined as follows:
1.1. To G10 or G17 alone (an additional definition will assess adherence of G17 with administration of both bolus and infusion for correct indications and durations, but at incorrect dosing levels, and segregate incorrect dosing errors into underuse and overuse)
1.2. To G5b: "Early stratification of patients into low- and high-risk categories for rebleeding and mortality, based on clinical/endoscopic criteria, is important for proper management. Available prognostic scales may be used to assist in decision-making", as identification of a recorded Rockall score in the patient chart.
1.3. To G6: "Early endoscopy (in the first 24 hours) with risk classification by clinical/endoscopic criteria allows for safe and prompt discharge of patients classified as low risk; improves patient outcomes for high-risk patients; and reduces resource utilisation for patients classified as either low or high risk", as the performance of endoscopy within 24 hours of onset of presentation to the emergency room (or of onset of symptoms for in-patients)
1.4. A review of the endoscopic records will assess the correct decision as to the performance of endoscopic therapy or not according to the guidelines 7:
1.4.1. G7a: "A finding of low-risk endoscopic stigmata (a clean-based ulcer or a non-protuberant pigmented dot in an ulcer bed) is not an indication for endoscopic haemostatic therapy"
1.4.2. G7b: "A finding of a clot in an ulcer bed warrants targeted irrigation in an attempt at dislodgment, with appropriate treatment of the underlying lesion"
1.4.3. G7c: "A finding of high-risk endoscopic stigmata (active bleeding or a visible vessel in an

ulcer bed) is an indication for immediate endoscopic haemostatic therapy", regardless of the chosen method
1.5. G18: "In patients awaiting endoscopy, empirical therapy with a high-dose proton pump inhibitor should be considered", for which any dose or method of administration is acceptable as per the guideline

Tertiary endpoints:
More traditional, clinical endpoints of continued bleeding or rebleeding, need for surgery and mortality will be assessed, using previously validated clinical definitions. Continued bleeding is defined as:
1. Spurting arising from an artery on initial endoscopic examination not responding to endoscopic therapy
2. Persistence following initial endoscopy of bloody nasogastric aspirate
3. Shock with a pulse greater than 100 beats/min, a systolic blood pressure of under 100 mmHg, or both; and/or
4. The need for substantial replacement of blood and fluid volume (transfusion of greater than 3 units of blood within 4 hours) following endoscopic therapy
5. The proportion of rebleeding (defined by recurrent vomiting of fresh blood, melena, or both with either shock or a decrease in haemoglobin concentration of at least 2 g/L following initial successful treatment including resuscitation and endoscopic therapy, if indicated) will be quantified, as will the need for surgery and mortality
6. Economic data will be captured in the form of duration of hospital stay and converted into hospitalisation costs based on Canadian per diem we have published
7. The outcome of guideline concordance that has been addressed in some studies is clinically not relevant to the targeted population since all guidelines except G18 relate specifically to patients undergoing endoscopy, and since there are few perceived side effects attributable to PPI that would preclude their use in a patient with acute NVUGIB

Overall study start date
15/09/2008

Completion date
31/12/2009

Eligibility

Key inclusion criteria
Cluster-level inclusion criteria:
Participating hospitals will be selected based on:
1. A recognised level of prior patient accrual into one of the many registries we have carried out nationally in NVUGIB (RUGBE, REASON, and DURABLE - a national utilisation study of in-hospital acid suppressants, with over 8500 prescriptions)
2. A minimum size of 75 beds required, with weekly hospitalisation of at least 4 - 5 patients with NVUGIB (data from site eligibility questionnaire and previous registries)
3. The availability of a trained digestive endoscopist who can provide urgent gastroscopy within 24 (week-days) to 48 hours (week-ends) of presentation (availability of trained on-call endoscopy assistants not required since 60% of Canadian centres do not have one)
4. Access to an in-house intensive care unit (ICU), and surgical support
5. Existence of an institutional electronic pharmacy database

Patient-level inclusion criteria:
The charts of the patients will be included for:
1. A patient aged 18 or over, either sex
2. Patients treated during the study duration (or the baseline evaluation period)
3. Primary or secondary discharge diagnoses of NVUGIB (per charted International Classification of Disease, 10th Revision [ICD-10] code). Additional confirmation of NVUGIB using patient symptoms will be done as previous.

Participant type(s)
Patient

Age group
Adult

Lower age limit
18 Years

Sex
Both

Target number of participants
In order to enrol 1012 patient charts, we will need to collect data on 2024 patients over 3 x 4-month study periods

Key exclusion criteria
Patient-level exclusion criteria:
The charts of patients will be excluded if:
1. Patients were initially assessed at another institution for the present episode of NVUGIB and subsequently transferred to the participating site
2. There was presentation with NVUGIB to an Emergency Room (ER) not requiring admission to hospital
3. Endoscopy noted no gastro-duodenal ulcer bleeding, to ensure patient homogeneity

Date of first enrolment
15/09/2008

Date of final enrolment
31/12/2009

Locations

Countries of recruitment
Canada

Study participating centre

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Sponsor information

Organisation
AstraZeneca Canada Inc. (Canada)

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Sponsor type
Industry

Website
http://www.astrazeneca.com/

ROR
https://ror.org/04n8fbz89

Funder(s)

Funder type
Research organisation

Funder Name
Canadian Institutes of Health Research (CIHR) (Canada) - http://www.cihr-irsc.gc.ca (ref: IR2-90381)

Results and Publications

Publication and dissemination plan
Not provided at time of registration

Intention to publish date

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration