Enhanced recovery after elective caesarean: protocol for a rapid review of clinical protocols, and an umbrella review of systematic reviews

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Background

In the United Kingdom 25.5% (167,283) of all deliveries are by caesarean section, a rate that has almost doubled since 1993. Currently, NHS obstetric units are facing increased pressure to maintain high quality maternal and neonatal care while juggling rising costs and demands with limited resources. A suggestion for balancing these opposing forces in planned or “Elective” caesarean section (CS) is the implementation of an enhanced recovery pathway. If successful, an enhanced recovery pathway would result in the early discharge of women which would not only benefit both the mother and new born child but could also result in significant reduction in obstetric unit costs.

Enhanced recovery or “fast track surgery” pathways are multimodal perioperative approaches designed to improve patient recovery, thereby reducing length of stay without impeding patient satisfaction or safety. The concept of a recovery pathway was first integrated into colorectal surgery but has since been implemented in a number of other elective surgery fields.

According to the NHS Maternity Statistics, the average length of stay after elective caesarean section is two days or less (69.9%). A survey conducted by Wrench et al. found that of 58 women, discharged two or more days after their elective caesarean, 46% would have preferred to have gone home at least a day earlier. Currently, enhanced recovery has not been reported in elective caesarean section but the young and healthy population would make an ideal patient sample to implement an enhanced recovery after surgery (ERAS) pathway.

Rationale

A number of components are thought to contribute to enhanced recovery after caesarean section. These components have been combined in different ways with variable adoption of key elements by different institutions. Thus far, these efforts have not been co-ordinated or systematised. Many interventions are designed based on the ISLAGIATT ('it seemed like a good idea at the time') principle, but the soundness of this approach is not thought to result in an intervention that is either optimised or externally valid [1]. A recent paper has called for a more systematic approach to selection of components for optimising complex interventions [2]. The purpose of this review is to identify and synthesise available evidence to inform design of an ERAS pathway for elective caesarean section as well as the design of a research studies for its evaluation.

Objectives

1. A rapid review of the components of ERAS pathways that have been proposed for use in elective caesarean.
2. An overview of systematic reviews of ERAS components or pathways in any setting, including a description of the outcomes assessed and an aggregate summary of findings table for the outcome, length of hospital stay.

Methods

Protocol and registration

This protocol will be registered on the PROSPERO database.

Eligibility criteria

ERAS packages in Elective CS

Eligible studies will be published guidelines, research articles or conference abstracts proposing or detailing components of a clinical pathway for enhanced recovery after

elective caesarean section. There will be no restriction on study design and no date limits. Studies not published in English are to be excluded.

Systematic reviews of ERAS components and packages

Eligible studies will be Cochrane or other systematic reviews evaluating one or more component(s) aimed at reducing length of hospital stay following elective surgery. As the focus of the study is the identification of components for enhanced recovery after Elective CS, we will exclude systematic reviews that do not evaluate an ERAS package or component(s).

Information sources and search

ERAS packages in Elective CS

We will search Ovid MEDLINE 1946 to October 19, 2014, and EMBASE 1974 to October 19, 2014, for any paper detailing a clinical pathway for enhanced recovery after elective caesarean section. The MEDLINE AND EMBASE search strategies are available in Appendix 1. We will also search the National Guideline Clearinghouse.

Systematic reviews of ERAS components and packages

We will search the Cochrane Library and the Database of Abstracts of Reviews of Effects (DARE) for Cochrane or other systematic reviews using the search terms “enhanced recovery” and “length of stay”, “umbilical cord clamping”, “early catheter removal”, “early fluids and food”, “caesarean section” and “surgical incision”, and finally “perioperative hypothermia”.

Study selection

One researcher (EC) will independently screen citations at title and abstract in Mendeley according to the eligibility criteria above. Papers found to be eligible at

title/abstract will be retrieved and screened at full paper. Eligibility queries will be resolved by a second researcher (DH).

Data collection process

One member of the review team (EC) will extract the data, a second (DH) will resolve queries.

Data items

For the ERAS pathways, components recommended in each article will be tabulated by phase of operation (pre-, intra- and post-operative). For the overview of reviews, we will tabulate which outcomes, in addition to length of stay, are reported by each eligible systematic review. Summary of findings tables for length of stay, will be aggregated into a single table; where the source review does not have a summary of findings table, we will abstract the data to create one.

Risk of bias in individual studies

Eligible clinical pathways for enhanced recovery after Elective CS will be assessed using the Appraisal of Guidelines for Research & Evaluation (AGREE II) Instrument [3] Systematic reviews will be assessed by a single reviewer (EC) using A Measurement Tool to Assess Systematic Reviews (AMSTAR), a reliable and valid 11-item tool [4, 5]; the assessments were checked and queries will be resolved by a second reviewer (DH).

Summary measures

There is no summary measure for the review of clinical protocols for enhanced recovery in elective caesarean. For the overview of reviews, the length of stay, measured in days, with 95% confidence interval, will be reported in the aggregated summary of findings table.

Synthesis of results

A narrative summary of tabulated data will be provided. No statistical synthesis will be undertaken.

Risk of bias across studies

For assessment of risk of bias across the aggregated dataset, we will aggregate GRADE (Grades of Recommendation, Assessment, Development and Evaluation) tables from systematic reviews for Length of Stay [6]. Where systematic reviews have been published without GRADE tables, EC will produce them, based on the systematic review findings, and DH will check her summary.

References

1. The Improved Clinical Effectiveness through Behavioural Research Group (ICEBeRG): **Designing theoretically-informed implementation interventions.** *Implement Sci* 2006, **1**:4.

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3. Brouwers MC, Kho ME, Browman GP, Burgers JS, Cluzeau F, Feder G, Fervers B, Graham ID, Grimshaw J, Hanna SE, Littlejohns P, Makarski J, Zitzelsberger L: **AGREE II: advancing guideline development, reporting and evaluation in health care.** *CMAJ* 2010, **182**:E839–42.

4. Shea BJ, Hamel C, Wells GA, Bouter LM, Kristjansson E, Grimshaw J, Henry DA, Boers M: **AMSTAR is a reliable and valid measurement tool to assess the methodological quality of systematic reviews.** *J Clin Epidemiol* 2009, **62**:1013–20.

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6. Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P, Schünemann HJ: **GRADE: an emerging consensus on rating quality of evidence and strength of recommendations.** *BMJ* 2008, **336**:924–6.

Appendix 1.

MEDLINE search strategy

1. Cesarean Section/

2. caesarian section.mp.

3. cesarian section.mp.

4. cesarean section.mp.

5. caesarean section.mp.

6. or/1-5

7. limit 6 to (human and english language)

8. enhanced recovery.mp.

9. 7 and 8

10. limit 9 to English language

EMBASE search strategy

1. Cesarean Section/

2. caesarian section.mp.

3. cesarian section.mp.

4. cesarean section.mp.

5. caesarean section.mp.

6. or/1-5

7. limit 6 to (human and english language)

8. enhanced recovery.mp.

9. 7 and 8

10. limit 9 to English language