International Journal of Obstetric Anesthesia (2012) **21**, 264–272
0959-289X/$ - see front matter
http://dx.doi.org/10.1016/j.ijoa.2012.03.004

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REVIEW ARTICLE

The National Institute for Health and Clinical Excellence (NICE) guidelines for caesarean section, 2011 update: implications for the anaesthetist

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ABSTRACT
In 2004 the first National Institute for Health and Clinical Excellence guidelines on caesarean section were published with the aim of providing evidence-based recommendations for best practice. With the publication of new evidence, the guidelines have been revised with the second edition released in 2011. This review highlights the changes that have been made which are of specific relevance to obstetric anaesthetists including planned caesarean section compared with vaginal birth in healthy women with an uncomplicated pregnancy; management of the morbidly adherent placenta; mother-to-child transmission of maternal infections; maternal request for caesarean section; decision-to-delivery interval for emergency caesarean section; timing of antibiotic administration and childbirth after caesarean section.

Keywords: NICE guidelines; Caesarean section; Anaesthesia

Introduction

The National Institute for Health and Clinical Excellence (NICE) is an organisation that is part of the UK National Health Service (NHS). It was established in 1999 with the aim of providing clinical guidance and evidence-based recommendations to promote excellence in clinical care and efficiency in the use of resources. All recommendations are devised by independent committees and a wide range of subjects in various specialities have been the focus of attention.[1] In 2004, NICE produced its first caesarean section (CS) guideline, reviewed previously in this journal.[2] The updated guideline,[3] released in November 2011, is a partial update of the original document.

Guideline production process

NICE commissioned the guidance from the National Collaborating Centre for Women's and Children's Health (NCC-WCH). Over 100 bodies registered interests as stakeholders. The NCC-WCH prepared the scope for the update and a Guideline Development Group (GDG) was established to draft an updated guideline. The GDG comprised three obstetricians, two midwives, two lay members, and an anaesthetist. The GDG developed review questions on subjects where the 2004 recommendations were no longer thought to represent current or best practice. A draft guideline was released for public consultation, after which the independent review panel checked that stakeholder comments had been acknowledged. The final guidance was then released. The guideline aims to provide evidence-based recommendations to aid in the care of women undergoing CS in the UK. Information is provided on the risks and benefits of planned CS compared to planned vaginal birth, specific indications for CS, management strategies to avoid CS, anaesthetic and surgical aspects of care and interventions to reduce morbidity. It does not make recommendations on management of pregnancies with obstetric or medical complications such as gestational diabetes or preeclampsia. A number of research recommendations are made in areas where the GDG consider current evidence is lacking, incomplete or contradictory.

The purpose of this article is to highlight the areas of the new guideline that have changed and also to review other areas of importance to the anaesthetist.

Evidence and grading of recommendations

The original 2004 guideline reviewed the quality of available evidence and graded its quality (Table 1),

Accepted March 2012
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Table 1 Levels of evidence

Level	Evidence
1a	Systematic review or meta-analysis of randomised controlled trials
1b	At least one randomised controlled trial
2a	At least one well-designed controlled study without randomisation
2b	At least one well-designed quasi-experimental study, such as a cohort study
3	Well-designed non-experimental descriptive studies, such as comparative studies, correlation studies, case controlled studies and case series
4	Expert committee reports, or opinions and/or clinical experience of respected authorities

Table 2 Grading of recommendations

Grade	Strength of evidence
A	Based on level 1 evidence
B	Based on level 2 evidence or extrapolated from level 1 evidence
C	Based on level 3 evidence or extrapolated from level 1 or 2 evidence
D	Based on level 4 evidence or extrapolated from level 1, 2, or 3 evidence
GPP	Group practice point based on the view of the guideline development group
NICE TA	Recommendation taken from NICE Technology Appraisal

following which recommendations based on the evidence were made (Table 2). For the 2011 update, evidence relating to the review areas was assessed using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach.[4] Outcome measures for each review area were selected and the quality of evidence for each outcome was assessed against several criteria including study design, study limitations and imprecision. An overall quality rating for the evidence (high, moderate, low or very low) was then assigned. The body of evidence for each review question is presented in the form of a GRADE evidence table. Summary tables are presented in the main text of the document with the full GRADE profiles reported in Appendix H of the guideline. The updated guideline therefore contains parallel systems of evidence review and recommendations that may be confusing at first glance. In order to ensure that recommendations represent a cost-effective use of healthcare resources, review questions were subject to a health economics analysis which the GDG took into consideration. In each review area of the guideline a short section details the economic considerations of the recommendations, and the reader is referred to Chapter 13 of the full guideline for more detailed analysis.

Updated areas of the guideline

Planned caesarean section compared with planned vaginal birth in healthy women with an uncomplicated pregnancy

The GDG sought to review evidence focussing specifically on healthy women with normal pregnancies in order to provide information to women who request CS in the absence of a clinical indication. Studies were only included if they presented findings on an intention-to-treat basis; that is, those that compared outcomes for planned caesarean section versus planned vaginal delivery, regardless of actual mode of delivery. The evidence was based on observational studies that were all of low or very low quality. The evidence relating to maternal health outcomes is summarised in Table 4.5 of the guidelines and the evidence relating to neonatal outcomes is summarised in Table 4.6. The tables quote the estimated risk of various adverse outcomes for planned vaginal delivery and planned caesarean section, with absolute and relative risks described where data are available. They also comment on the quality of evidence for each adverse outcome. The tables are referred to frequently in the guideline. It is suggested that women should be counselled using the evidence tables, and that particular attention be given to those outcomes that are important to each woman. Their use is particularly recommended by NICE when counselling women who request CS with no medical indication.

Maternal outcomes

The maternal mortality rate in one study was found to be higher in women undergoing a planned CS than in women with planned vaginal delivery: 9/737 vs. 49/9133, respectively, an odds ratio of 2.28 (95% confidence interval (CI) 1.11–4.65).[5] Two other studies did not find a statistically significant difference between the groups.[6,7] The median pain level at birth and three days postpartum was lower in women with a planned CS compared to those who had a planned vaginal birth;