Sundhedsstyrelsen

CAESAREAN SECTION ON MATERNAL REQUEST

A health technology assessment - summary

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Summary

Background

The frequency of caesarean sections has been rising for a number of years. In 1991, 12.4% of all deliveries were by caesarean section, while in 2003 the proportion had risen to 19.5%. This rise can partially be attributed to an increase in the number of breech deliveries and multiple birth deliveries being carried out by caesarean section, and another part of the increase may possibly be ascribed to a higher average age among expectant mothers. In addition to this, a changed attitude to birth methods among pregnant women and health professionals can be assumed to be of considerable importance in the rise in the frequency of caesarean sections. Both in Denmark and internationally, an increasing number of women are choosing caesarean section without medical indication (maternal request) and thereby contribute to the rise in the frequency of caesarean sections. The background for this is not elucidated sufficiently, but it may be assumed that e.g. women's need to control and plan the birth, psychologically caused fear of giving birth and previous traumatic birth experiences are significant reasons for the wish by these women. This assumption is being studied in more detail in the present Health Technology Assessment.

Object

Caesarean section on maternal request has become the object of considerable interest among other things in the media, in the health professional circles and in the Danish parliamentary Health Committee. The object of this report is to contribute to the debate and provide an input for decision making in relation to the future management of this issue. The report is intended to contribute by collating information and set out an overall assessment of the benefits and risks in a planned caesarean section on maternal request seen in relation to a vaginal delivery. The report analyses the risks for mother and child in a planned caesarean section which is carried through, the patient-related background parameters and consequences are evaluated, and finally the organisational and economic consequences are investigated. To this is added an ethical analysis of the problem, to form an overall comprehension framework for the rest of the analysis.

Method

The ethical analysis is undertaken based on ethical principles, legislation in the field and the available knowledge provided by the rest of the analyses. The technological analysis is based on a systematic literature review and on registered data. The patient perspective is based on a systematic literature review, the organisational analysis on qualitative case studies and the economic analysis on a study of the literature and data from the cost register of the National Board of Health.

Results

As a basis for the report, the medical indications for planned caesarean section are discussed in order to define caesarean section on maternal request. The boundaries between absolute and relative medical indication and caesarean section on maternal request are, however, fluid, and the categorisation of "maternal request" is therefore to a large extent based on an individual clinical judgement. The number of women registered in the Danish National Patient Registry under the term "elective caesarean on maternal request" is in the region of 1,000 annually. Approximately 80% of these are multiparae. A study from Skejby hospital has shown that 93% of multiparae who choose to have a caesarean section, based their wish on an earlier birth experience.

Summary in: Sundhedsstyrelsen, Center for Evaluering og Medicinsk Teknologivurdering. Kejsersnit på moders ønske – en medicinsk teknologivurdering. Medicinsk Teknologivurdering 2005; 7(4). København: Sundhedsstyrelsen, Center for Evaluering og Medicinsk Teknologivurdering, 2005. p 10-12.
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The ethical analysis is based on the four principles: autonomy, non-maleficence, beneficence and justice. In an evaluation of caesarean section on maternal request, it is concluded that, if the caesarean section is to continue to be viewed as a method of delivery requiring a special reason, and therefore not to be equated with vaginal delivery, the indication for a caesarean section must require that a vaginal delivery would be linked to an increased risk for mother or child. If this is not the case, we cannot speak of a mother's *right* to a caesarean section, but we can speak of a mother's *request*. Such a request does not itself require the health authority to accommodate it, but health personnel may in the concrete situation agree that the reasons cited for the request make a caesarean section the best choice. If the perception of caesarean section were to change radically, so that the performance of a caesarean section did not require a special reason, and vaginal birth and caesarean section were therefore regarded as equivalent, the woman would, from a purely ethical perspective, have the right to make a free choice between the two methods of treatment. In favour of the maintenance of the traditional preference for vaginal birth is the fact that it follows the physiology of pregnancy and does not require invasive intervention.

As far as the *technology* is concerned, the international literature concerning risks for mother and child is characterised by heterogeneity, low standards of evidence and fundamental methodological problems. Concerning the mother, there are no studies comparing the complications among healthy pregnant women who had caesarean sections purely on maternal request, with pregnant women who choose to give birth vaginally. Danish register data show an increased risk of infection and reoperation after an elective caesarean section. These complications should be compared with the risk of sphincter rupture and invasive intra-uterine palpation (examination of the uterus) in planned vaginal births. Serious complications such as hysterectomy and thromboembolism are very rare. However, there is a need for a more detailed analysis of the rare, serious complications of caesarean section in validated extracts from the Danish registers. Likewise, there is a need for further research into the risks of serious complications in any subsequent pregnancy. Concerning the risks to the child, no advantage has been shown with certainty for the child arising from elective caesarean section, either in terms of perinatal mortality, morbidity or long-term complications There appears to be a raised incidence rate of respiratory problems following elective caesarean section, connected to the gestation age. Danish register data show, with the exception of a slightly lower risk of low Apgar score after elective caesarean section, no significant difference in the frequency of selected complications for the child in the two delivery methods. It is surprising that the same difference in the frequency of respiratory morbidity after elective caesarean section and planned vaginal birth as in foreign studies was not evident in Danish registers. A possible explanation may be that the registration of codes for respiratory problems when children are transferred after vaginal delivery or acute caesarean section are for different reasons (e.g. oxygen deficiency or suspicion of lung inflammation) than when children are transferred after elective caesareans (surfactant deficiency). This should be clarified by the validation of register information. Investigations should also be made to establish whether the prognosis for children who are transferred with respiratory problems (duration of inpatient stay and late complications) is the same for both methods of delivery.

The literature review concerning the *patient perspective* shows that basic knowledge is lacking in many areas. Foreign studies, however, show that vaginal birth is the method of choice for the majority of women asked. Fear seems to be a major reason for the request for caesarean section, and it is estimated that 6-10% of pregnant women fear giving birth. The concept of fear covers a large range of parameters, e.g. fear of loss of control, of dying, fear for the child's life and physical and mental health. The fear is typically based on extremely complex and multi-factorial conditions, requiring individual uncovering. It is not clear whether, and to what extent, an elective caesarean section brings more emotional problems for a woman than a planned vaginal birth, but a single study and expert opinions suggest that vaginal birth can bring positive emotional effects to a woman. Finally, the literature stresses the important need to ensure that enough information is given for a woman to be enabled to make an informed decision if she expresses a wish to have a caesarean section. However, it is not clear what information women are in need of, in what form the information should be given, or who should give it.

The organisational analysis is based on three qualitative case studies. The studies indicate that to the extent that a good labour experience can be assured for women, a very considerable proportion of the demand for caesarean sections on maternal request could be reduced. The extent of elective caesarean sections on maternal request is regarded as very moderate and almost always well-founded. Organisationally, the hospitals involved have chosen to manage patient groups connected with the wish for an elective caesarean section on maternal request, by focusing on an investigation of the underlying reasons for the request, in order to help the woman to be able to make an informed decision as to what method of delivery she desires and to make agreements on alternative ways of delivery progress, if so desired. Many different conditions distinguish the three departments in terms of how they in general organise the procedures surrounding a caesarean section. The stipulation of fixed days on which caesarean sections are performed is reported to have brought a number of advantages for staff, patient and productivity, without having caused any noticeable inconvenience.

Data from the birth cost database are affected by very high levels of uncertainty and therefore the results of the *health economics analysis* are affected by the same uncertainty. In spite of this, the Danish results are in close agreement with international studies, and the scale of the cost estimates for the various groups are in close agreement with what would be expected *a priori*. On the basis of extracts from the cost database, it is estimated that it costs in the order of DKK 5,000 more per caesarean section compared to a vaginal birth for multiparae, while there were no apparent extra costs associated with primaparae. However, it is open to debate whether this extra cost could in practice be significantly reduced if, for example, caesarean sections on maternal request were to be removed as an option, since this group of women would presumably request more pain relief than the average pregnant woman giving birth vaginally. Also the group of multiparae receiving elective caesarean sections on maternal request differs from the majority of multiparae in that they have more often had labour complications the first time, and will therefore more often experience labour complications at subsequent births. The estimated annual social burden of cost based on the average costs from the cost database in case of a *hypothetical* increase of 5 percentage points in elective caesarean sections on maternal request is approx. DKK 6 million.

Perspectives

The main conclusion of this report is that more should be done to ensure that women's first birth experience is a good one. The caesarean section is mostly requested by multiparae who have had a bad earlier experience and it is therefore the key point to prevent the wish for an elective caesarean by ensuring good first-time births. The information given to pregnant women as a basis for their choice is another central point. Pregnant women requesting a caesarean section should be informed of the benefits and risks to both themselves and to the child. They should also be informed about implications for later pregnancies and births and even on the possibility to become pregnant again. It is also recommended that research should be undertaken in a number of areas to establish a better knowledge foundation concerning caesarean section on maternal request.