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Review

Delivery for women with a previous cesarean: guidelines for clinical practice from the French College of Gynecologists and Obstetricians (CNGOF)

Loïc Sentilhes [a,*], Christophe Vayssière [b,c], Gael Beucher [d], Catherine Deneux-Tharaux [e], Philippe Deruelle [f,g], Pierre Diemunsch [h], Denis Gallot [i,j], Jean-Baptiste Haumonté [k], Sonia Heimann [l], Gilles Kayem [m], Emmanuel Lopez [n], Olivier Parant [b,c], Thomas Schmitz [o], Yann Sellier [p], Patrick Rozenberg [q], Claude d'Ercole [k]

[a] Service de Gynécologie-Obstétrique, CHU Angers, 49933 Angers, France
[b] Service de Gynécologie-Obstétrique, Hôpital Paule de Viguier, CHU Toulouse, 31059 Toulouse, France
[c] UMR 1027 Inserm Université Toulouse III «Epidémiologie Périnatale et handicap de l'enfant, Santé des adolescents», 31000 Toulouse, France
[d] Service de Gynécologie-Obstétrique, CHU Caen, 14033 Caen, France
[e] INSERM U953 «Recherches épidémiologiques en santé périnatale, santé des femmes et des enfants», UPMC, Maternité de Port-Royal, 75014 Paris, France
[f] Service de Gynécologie-Obstétrique, CHU Lille, 59037 Lille, France
[g] EA 4489 «Environnement périnatal et croissance», PRES Lille-Nord-de-France, Lille, France
[h] Service d'Anesthesie-Réanimation, CHU d'Hautepierre, 67098 Strasbourg, France
[i] Service de Gynécologie-Obstétrique, CHU Estaing, 63003 Clermont-Ferrand, France
[j] R2D2-EA7281, Université d'Auvergne, 63000 Clermont-Ferrand, France
[k] Service de Gynécologie-Obstétrique, CHU Marseille, Hôpital Nord, AP-HM, 13015 Marseille, France
[l] Association d'usagers «Césarine», Paris, France
[m] Service de Gynécologie-Obstétrique, Hôpital Louis-Mourier, AP-HP, 92701 Colombes, France
[n] Service de Médecine Néonatale de Port-Royal, Groupe Hospitalier Cochin, Hôtel-Dieu, AP-HP, 75014 Paris, France
[o] Service de Gynécologie-Obstétrique, Hôpital de Robert-Debré, AP-HP, 75019 Paris, France
[p] Service de Gynécologie-Obstétrique, AP-HP Hôpital Necker – Enfants Malades, 75743 Paris, France
[q] Service de Gynécologie-Obstétrique, Centre Hospitalier Inter-Communal (CHI) de Poissy, 78300 Poissy, France

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ABSTRACT

The primary cause of uterine scars is a previous cesarean. In women with a previous cesarean, the risks of maternal complications are rare and similar after a trial of labor after cesarean (TOLAC) and after an elective repeat cesarean delivery (ERCD), but the risk of uterine rupture is higher with TOLAC (level of evidence [LE]2). Maternal morbidity in women with previous cesareans is higher when TOLAC fails than when it leads to successful vaginal delivery (LE2). Although maternal morbidity increases progressively with the number of ERCD, maternal morbidity of TOLAC decreases with the number of successful previous TOLAC (LE2). The risk-benefit ratio considering the risks of short- and long-term maternal complications is favorable to TOLAC in most cases (LE3).

Globally, neonatal complications are rare regardless of the mode of delivery for women with previous cesareans. The risks of fetal, perinatal, and neonatal mortality during TOLAC are low. Nonetheless, these risks are significantly higher than those associated with ERCD (LE2). The risks of mask ventilation, intubation for meconium-stained amniotic fluid, and neonatal sepsis all increase in TOLAC (LE2). The risk of transient respiratory distress increases in ERCD (LE2). To reduce this risk, and except in particular situations, ERCD must not be performed before 39 weeks (grade B).

TOLAC is possible for women with a previous cesarean before 37 weeks, with 2 previous cesareans, with a uterine malformation, a low vertical incision or an unknown incision, with a myomectomy, postpartum fever, an interval of less than 6 months between the last cesarean delivery and the

Abbreviations: ERCD, elective repeat cesarean delivery; LE, level of evidence; TOLAC, trial of labor after cesarean; VBAC, vaginal birth after cesarean.

* Corresponding author at: Department of Obstetrics and Gynecology, Angers University Hospital, 4, rue Larrey, 49000 Angers, France. Tel.: +33 2 41 35 77 44; fax: +33 2 41 35 57 89.
E-mail address: loicsentilhes@hotmail.com (L. Sentilhes).

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conception of the following pregnancy, if the obstetric conditions are favorable (professional consensus). ERCD is recommended in women with a scar in the uterine body (grade B) and a history of 3 or more cesareans (professional consensus). Ultrasound assessment of the risk of uterine rupture in women with uterine scars has not been shown to have any clinical utility and is therefore not recommended during pregnancy to help decide the mode of delivery (professional consensus). Use of X-ray pelvimetry to decide about TOLAC is associated with an increase in the repeat cesarean rate without any reduction in the rate of uterine rupture (LE2). It is unnecessary for deciding mode of delivery and for managing labor during TOLAC (grade C).

TOLAC should be encouraged for women with a previous vaginal delivery either before or after the cesarean, a favorable Bishop score or spontaneous labor, and for preterm births (grade C). For women with a fetus with an estimated weight of more than 4500 g, especially in the absence of a previous vaginal delivery and those with supermorbid obesity (BMI $>$ 50), ERCD must be planned from the outset (grade C). For all of the other clinical situations envisioned (maternal age $>$ 35 years, diabetes, morbid obesity, prolonged pregnancy, breech presentation and twin pregnancy), TOLAC is possible but the available data do not allow specific guidelines about the choice of mode of delivery, in view of the low levels of proof (grade C).

The decision about planned mode of delivery must be shared by the patient and her physician and made by the 8th month, taking into account the individual risk factors for TOLAC failure and uterine rupture (professional consensus). TOLAC is the preferred choice for women who do not have several risk factors (professional consensus). The availability onsite of an obstetrician and anesthetist must be pointed out to the patient. If the woman continues to prefer a repeat cesarean after adequate information and time to think about it, her preference should be honored (professional consensus).

Labor should be induced in woman with a previous cesarean only for medical indications (professional consensus). Induction of labor increases the risk of uterine rupture, which can be estimated at 1% if oxytocin is used and 2% with vaginal prostaglandins (LE2). Mechanical methods of induction have not been studied sufficiently. Misoprostol appears to increase the risk of uterine rupture strongly (LE4). Based on the information now available, its use is not recommended (professional consensus). Routine use of internal tocodynamometry does not prevent uterine rupture (professional consensus). The increased risk of uterine rupture associated with oxytocin use is dose-dependent (LE3). In the active phase, it is recommended that the total duration of failure to progress should not exceed 3 h; at that point, a cesarean should be performed (professional consensus). Epidural analgesia must be encouraged. The simple existence of a uterine scar is not an indication for a routine manual uterine examination after VBAC (grade C).

Contents

1. Introduction and method [1–3]

The sponsor (the French College of Gynecologists and Obstetricians (CNGOF)) appointed a steering committee (Appendix A) to define the exact questions to be put to the experts, to choose the experts, follow their work and draft the synthesis of recommendations resulting from their work. The experts analyzed the scientific literature on the subject to answer the questions raised. A literature review identified the relevant articles through mid-2012 by searching the MEDLINE database and the Cochrane Library. The search was restricted to articles published in English and French. Priority was given to articles reporting results of original research, although review articles and commentaries were also consulted. Guidelines published by organizations or institutions such as the American College of Obstetricians and Gynecologists (ACOG) [4], the Royal College of Obstetricians and Gynaecologists (RCOG) [5], the Society of Obstetricians and Gynaecologists of Canada (SOGC) [6], the National Institute for Health and Clinical Excellence (NICE) [7], the Agency for Healthcare Research and Quality (AHRQ) [8], and the Haute Autorité de Santé (HAS) [9] as well as previous guidelines published by the CNGOF [10] were reviewed, and additional