

Labor and Delivery of Twin Pregnancies



Stephanie Melka, MD, James Miller, MD, Nathan S. Fox, MD*

KEYWORDS

• Twins • Labor • Delivery • Breech extraction • Active management • Cesarean

KEY POINTS

- In twin pregnancies, planned vaginal delivery is not associated with adverse maternal or neonatal outcomes, compared with planned cesarean delivery, assuming the obstetrician is experienced in twin delivery.
- Active management of the second stage of labor consists of breech extraction of the non-vertex second twin and internal podalic version and breech extraction of the unengaged vertex second twin.
- Active management of the second stage of labor achieves a high rate of vaginal deliveries and very low rates of combined vaginal-cesarean delivery.

INTRODUCTION

The incidence of twin pregnancies in the United States has increased over the past few decades, and twins now represent 3.4% of all US live births.¹ In the United States, approximately 75% of twins are delivered by cesarean delivery (CD).² Reasons for the high CD rate in the United States include malpresentation of the first or second twin, prematurity, maternal comorbidities, and patient preference. However, recent literature suggests that, for many women with twin pregnancies, vaginal delivery can be achieved without increasing maternal or neonatal morbidity. This article reviews the management of labor in twin pregnancies.

BACKGROUND

Mode of Delivery and Success Rates of Twin Vaginal Delivery

Overall, the goal of a twin delivery is to provide a safe delivery for the mother and both babies. With regard to mode of delivery, there are 3 potential outcomes:

Disclosure: The authors have nothing to disclose.

Maternal Fetal Medicine Associates, PLLC, and The Department of Obstetrics, Gynecology, and Reproductive Science, Icahn School of Medicine at Mount Sinai, 70 East 90th Street, New York, NY 10128, USA

* Corresponding author.

E-mail address: nfox@mfmnyc.com

Obstet Gynecol Clin N Am 44 (2017) 645–654

<http://dx.doi.org/10.1016/j.ogc.2017.08.004>

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- Vaginal delivery of both twins
- CD of both twins
- Vaginal delivery of twin A followed by CD of twin B (combined vaginal-CD)

In general, vaginal delivery of both twins is the most desirable outcome (discussed later) because neonatal outcomes are similar regardless of mode of delivery and because it avoids the maternal morbidity associated with CD for the current pregnancy and future pregnancies. CD of both twins is the next desirable outcome. The least desirable outcome is a combined vaginal-CD. This type of delivery adds the morbidities of labor, vaginal delivery, and CD. It also frequently is associated with a complication between the delivery of the first and second twin.

Rates for the 3 modes of delivery vary in the literature. In the United States, the overall rate of CD for twins is approximately 75%² and up to 10% of women who deliver the first twin vaginally have an unplanned CD of the second twin.³ In Ireland, the CD rate for twins is 65% (23% for women who labored) with a 3% rate of combined vaginal-CD.⁴ A study from France of 657 women with twin pregnancies attempting labor showed a CD rate of 21.1% with a combined vaginal-CD rate of only 0.5%.⁵

The different CD rates and different combined vaginal-CD rates are mostly caused by differences in management of a nonvertex second twin. In the United States, malpresentation of the second twin is often the reason for CD because most modern-trained obstetricians lack the knowledge and experience to perform a breech delivery. However, in France, where the success rates were best, the obstetricians were comfortable with delivery of the second twin regardless of presentation because they routinely used active management of the second stage of labor, which consists of 2 essential tools: breech extraction of the nonvertex second twin and internal podalic version and breech extraction of the unengaged vertex second twin. Studies in the United States are consistent with these approaches. For example, among 130 women with twin pregnancies attempting labor, the CD rate was 15.4% with 0% having a combined vaginal-CD.⁶ In a follow-up study of 286 women with twin pregnancies attempting vaginal delivery, these rates were 17.8% and 0%, respectively.⁷

Active management of the second stage in a twin gestation is used to deliver the second twin by breech extraction in all cases except when the second twin is in an engaged vertex presentation. If there are no contraindications to vaginal delivery, patients with twin pregnancies who labor and have active management of the second stage should expect high rates of vaginal deliveries and very low rates of combined vaginal-CD.^{5,6} Both retrospective studies showed similar short-term neonatal outcomes for twins, regardless of planned mode of delivery.^{5,6}

Mode of Delivery: Safety of Vaginal Twin Delivery

Most older studies examining the safest mode of delivery for twins were retrospective and compared either twins born vaginally with twins born by CD, or compared twins with planned vaginal delivery with twins with planned CD. The conclusions of those studies were mixed,^{5,6,8–11} with some finding benefit to CD and others finding no difference in outcomes. However, the retrospective studies all contain significant selection bias, and it is difficult to make any definitive conclusions from these types of analyses.

The Twin Birth Study was a prospective, randomized trial of planned vaginal delivery versus planned CD for twin pregnancies, and the results were published in 2013.¹²

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