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Management in Second Stage of Labour in Term Twin Delivery

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Abstract. A simple program for management of term twin delivery in the second stage of labor is presented. Provided that given selection criteria are met, twins at term are delivered by the vaginal route

Key words: Twin pregnancy, Delivery, Fetal monitoring, Ultrasound examination

INTRODUCTION

Cesarean section has been recommended as the optimal mode of delivery in twin pregnancy if other than vertex/vertex presentation, mainly in order to avoid a hazardous breech extraction of the second twin [1, 8]. Furthermore, the dangerous event of a transverse lie of the second twin after delivery of the first twin can be avoided by a cesarean section. In a collaborative study from Malmöhus County, southern Sweden, this was however rarely found: of 803 pairs of twins delivered during the period 1973-1982, 24.2% were delivered by cesarean section; but of those where the first twin was delivered vaginally, the second twin was in only 2 cases (0.33%) delivered by a cesarean section [6]. The incidence during the recent 14 months has however increased to 7%.

These figures call attention to the problem of declining obstetric skill and experience when managing vaginal twin delivery. At our department we deliver all preterm (≤ 36 th gestational week) twins by cesarean section. If the selection criteria listed below are carried out, we deliver twins at term by the vaginal route. In this paper we present a simple program for management in the second stage of labor. This program utilizes commonly available obstetric techniques.

SELECTION CRITERIA

1. All twins before the end of the 36th gestational week are delivered by cesarean section.

2. From the 37th week, vaginal delivery is planned irrespective of presentation of the second twin if the first twin is in vertex presentation.
3. If the first twin is in breech presentation, an X-ray pelvimetry is performed. Critical measurements are 115 mm of the obstetric conjugate diameter and a sum of 325 mm of the anteroposterior diameter of the outlet, intertuberosus diameter, and interspinous diameter, below which a cesarean section is performed. Attention to the presentation of the second twin is so far insignificant. These criteria, when the first twin is in breech presentation, are identical to our criteria of singleton breech delivery.
4. Cesarean section indicated by other complications, mainly growth retardation, is considered due to common obstetrical indications and not the twin pregnancy *per se*.

MANAGEMENT

1. The obstetrician leads the delivery from a position beside the abdomen of the parturient. This position is the most important, and the midwife is gloved to make the vaginal examinations and manipulations primarily.
2. An intravenous way is established.
3. Oxytocin and a rapid-acting tocolytic drug are prepared for immediate i.v. administration. We use terbutaline for tocolysis, given in single doses of 0.5 mg.
4. Fetal heart rate (FHR) of both twins is continuously and simultaneously recorded: FHR of the first twin is preferably recorded by a scalp electrode, and of the second twin by an external ultrasound transducer. Uterine contractions are recorded by an external tocodynamometer.
5. An easily mobile real-time ultrasound equipment is available in the delivery room. Fetal positions and presentations are frequently determined already during the first stage of labor.
6. During descent of the first twin, the second twin is brought into a longitudinal position by external manipulations under ultrasound assistance. As the guiding is started before birth of the first twin, the risk of transverse lie of the second twin is minimized. A vertex presentation of the second twin is preferable, but as we already before the second stage of labor have excluded cases with contracted pelvis it is justified to deliver in breech presentation if required.
7. After birth of the first twin, the oxytocin infusion is immediately stopped if in use, and the second twin is firmly kept in a longitudinal position. The presentation is controlled by ultrasonic examination.
8. The leading part is then pressed down into the pelvic inlet and cervix by moderate pressure of the fundus. This means that we do not await spontaneous descent.
9. The midwife controls that the presenting part is well down in the cervix. In case of uterine inertia, the oxytocin infusion is then started slowly.
10. The membranes are ruptured during an uterine contraction. These manoeuvres minimize the risks of umbilical cord prolapse and cervical spasm.
11. A scalp electrode is applied. As long as the quality of the FHR record is good and no signs of impending intrauterine asphyxia appear, there is no absolute time limit of the time interval elapsing between the births of the two babies.
12. If the external manipulations fail and the second twin comes in a transverse position, 0.5 mg terbutaline is immediately given i.v. and the fetus is brought into a longitudinal position by external version under ultrasound control.

13. In case of an ominous FHR pattern, the manipulations are of course accelerated. If the external version is not successful, internal version and extraction are performed with simultaneous suprapubic pressure on the fetal head.

COMMENTS

This active management during the second stage of labor in term twin delivery is both simple and safe. It is however most important to make the manipulations in the correct order. For example, if there are two amniotic sacs, the membranes of the second twin must not be ruptured until the second twin is in a longitudinal position and the presenting part is steady beared down in the cervix.

Many obstetricians feel insecurity for the vaginal delivery of twins and are thus prone to advocate cesarean section. This may be due to a lack of experience and skill or the risk of juridical problems after nonoptimally managed cases. In our program, the potentially hazardous delivery is excluded from a vaginal trial. Furthermore, there is in general much time available for manipulations during the second stage of labor. If the obstetrician has an active attitude to the management, the time interval between the twins seems to have no association with the outcome [2, 5]. As reported by Rydhström et al [7], there are no differences in mortality or early morbidity of the two babies even if the time interval exceeds 30 minutes.

One may argue that our current rules for cesarean section in preterm (≤ 36 weeks) twin delivery are not adequate. Chervenak et al [3] reported that their data do not prove that vaginal breech delivery of the second twin of more than 1,500 g is more damaging than delivery by cesarean section. Furthermore, they have a 70% success rate of the intrapartum external version of the second twin. However, from our department there are data, based on singleton breech deliveries, that outcome in preterm vaginal breech delivery is impaired [4] and thus we believe that our current rules for breech presentation of the first twin are correct. On the other hand, it is a challenge to investigate whether the moderately preterm twins in gestational weeks 34-36 may benefit from a cesarean section or not.

REFERENCES

1. Cetrulo CL, Ingardia CJ, Sbarra AJ (1980): Management of multiple gestation. *Clin Obstet Gynecol* 23:533-548.
2. Chervenak FA, Johnson RE, Berkowitz RL, Hobbins JC (1983): Intrapartum external version of the second twin. *Obstet Gynecol* 62:160-165.
3. Chervenak FA, Johnson RE, Berkowitz RL, Grannum P, Hobbins JC (1984): Is routine cesarean section necessary for vertex-breech and vertex-transverse twin gestations? *Am J Obstet Gynecol* 148:1-5.
4. Ingemarsson I, Westgren M, Svenningsen NW (1978): Long-term follow-up of preterm infants in breech presentation delivered by cesarean section, a prospective study. *Lancet ii*:172-175.
5. Jouppila P, Kauppila A, Koivisto M, Moilanen I, Ylikorkala O (1975): Twin pregnancy. The role of active management during pregnancy and delivery. *Acta Obstet Gynecol Scand (Suppl)* 54:13-19.
6. Rydhström H: Unpublished.
7. Rydhström H, Grennert L, Nordensköld F, Ohrlander S, Svanberg L, Åberg A (1984): Time interval between delivery of the first and the second twin - a re-evaluation of prognosis for the

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second twin. Abstract 136. In Clinch J, Matthews T (eds): IX European Congress of Perinatal Medicine, Dublin 1984.

8. Taylor ES (1976): Editorial. *Obstet Gynecol Surv* 31:535-536.

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