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LETTER TO THE EDITOR

Management of fetal death after 20 weeks of gestation complicated by placenta previa

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Fetal death after 20 weeks of gestation in combination with complete placenta previa is rarely seen. A search in PubMed and EMBASE (1966–2006; search terms: ‘placenta previa’ and ‘fetal death’) revealed only one case report [1]. There is limited experience with these cases and management is controversial. An inquiry among the eight University Hospitals in the Netherlands revealed only three cases in the period of 1990 through 2005. These cases, in which three different policies were followed, are presented below.

The first woman was a 33-year-old gravida 7 para 4, with a well-controlled diabetes mellitus. She had had four uncomplicated deliveries and two miscarriages. The pregnancy in question, in 1990, was complicated by complete placenta previa. Fetal death occurred unexpectedly at 33 weeks. There was no bleeding. Five days later labor induction was initiated using prostaglandins (intravenous sulprostone, intramuscular carboprost and intracervical dinoprostone, respectively). After eight days and a total administration of 17 000 µg prostaglandins, attempts to induce labor were discontinued because of minimal cervical response. Expectant management was now agreed upon. Nineteen days after the diagnosis of stillbirth, the woman was readmitted because of fever and ruptured membranes. Coagulation tests and hemoglobin were normal and bleeding was still minimal. Antibiotics and oxytocin were started intravenously. Fourteen hours after admission the patient gave birth to a stillborn son with a birth weight of 1070 g (<5th percentile).

The placenta had to be extracted manually and weighed 130 g (<10th percentile). A central placental rupture was present, suggesting that the fetus was born through the placenta. Total blood loss was 50 mL and the postpartum period was uneventful.

The second case was a 33-year-old woman, who was gravida 5 para 2. Her two previous children were born by cesarean section because of cephalopelvic disproportion. In 1998 at 26⁺⁵ weeks she complained of painless vaginal bleeding. Ultrasound examination showed complete placenta previa with partial placental abruption and fetal death in transverse lie. Blood loss was moderate and coagulation tests and hemoglobin were normal. Contractions started and ultrasound examination showed cervical dilation of 1 cm. After ample consideration it was decided to perform a repeat cesarean section, because of the risk of uterine rupture and the explicit request of the mother who wished to try for another child in the future. A stillborn boy of 680 g (10–50th percentile) was delivered. The placenta weighed 165 g (<10th percentile). The cesarean section was complicated by a hemorrhage of 1500 mL for which two units of packed cells, two units of fresh frozen plasma and sulprostone were administered intravenously. The postoperative period was uneventful with normal coagulation tests.

The third woman was a 37-year-old gravida 4 para 2. Her obstetric history revealed two uncomplicated pregnancies and one spontaneous abortion. In 2000 at 20 weeks of gestation, she was referred because of moderate painless vaginal bleeding. Ultrasound

showed complete placenta previa and a living fetus. There was normal fetal growth without signs of fetal distress and vaginal bleeding remained scarce. At 23 weeks, however, the patient was admitted because of increased vaginal bleeding and fetal death was diagnosed. She was hemodynamically stable. Because blood loss decreased it was decided, after ample consideration of all therapeutic options, to manage the case expectantly. Two weeks later, at 25 weeks of gestation, the woman suffered from moderate bleeding and subsequently went into labor. Blood tests showed normal coagulation and hemoglobin. After three hours the placenta was located in the vagina and could easily be removed. The fetus was extracted under general anesthesia. A child of 470 g (10–50th percentile) and a placenta of 95 g (<10th percentile) were delivered. Total blood loss was 100 mL and the postpartum period was uneventful.

In this report, we present three cases in which induction of labor, cesarean section and expectant management were performed, respectively, in case of second- and third-trimester fetal death complicated by complete placenta previa. These cases illustrate that postponing delivery, aiming at vaginal birth, is a feasible option.

There are important arguments in favor of primary expectant management. First, some of the women with fetal death will deliver spontaneously during the waiting period (75–90% within two weeks, without placenta previa) [2]. Secondly, the placenta will become atrophic in time, which will probably result in less total bleeding. Indeed, in the first and third case the period between fetal death and labor was considerable with very little blood loss, possibly due to placental atrophy. In a small retrospective study of 15 patients with complete placenta previa, Ruano et al. showed that feticide two to 14 days before therapeutic pregnancy termination (gestational age 18–31 weeks) reduces blood loss [3]. The final argument in favor of primary expectant management is that placental atrophy will simplify vaginal delivery and dilation and evacuation (D&E) because the placenta will no longer impose an important obstruction. Fetal maceration and shrinking will also simplify D&E, if this should be necessary [4]. In conclusion, introducing an expectant period will probably reduce the number of complications associated with delivery in these patients.

Expectant management, however, may have disadvantages. Coagulation changes may occur, although these rarely develop within one month after fetal demise [5]. It is also likely that the risk of intrauterine infection will increase in time. Furthermore, the continued carrying of a dead fetus might increase psychological stress [6]. On the other hand, a period between diagnosis of fetal death and

pregnancy termination can improve a woman's ability to cope with the tragedy and prepare her for termination. Of course, the optimal duration for this is highly dependent on personal and cultural circumstances.

Based on the literature and our experience, we would advise an expectant period of about two weeks after the occurrence of fetal death. After two weeks placental atrophy will be substantial, the chance of spontaneous labor will probably be low, and the risk of coagulation changes and especially infection will only increase. In this period serious attention should be given to psychological support.

If a patient has not delivered within two weeks, or if an earlier termination is indicated, we would recommend medical induction. Prostaglandins can be used to induce labor, but misoprostol, alone or in combination with mifepristone, is just as effective [1,7].

In our opinion, surgical termination should be the last option. The first procedure that can be considered is D&E. Skilled surgeons can safely perform this procedure until about 24 weeks, also in the case of placenta previa [4,8,9]. There is currently, however, only limited experience with second-trimester D&E among obstetricians in the Netherlands. If D&E is performed in the case of fetal death one should beware of coagulopathy, which can develop by release of placental tissue, thromboplastin and amniotic fluid into the maternal circulation [4,10]. We feel that an important disadvantage of mechanical destruction in the case of fetal death is that parents will not be able to see and hold their infant. This could easily hamper bereavement, especially if this is not the parents' own choice. Data on this are, however, not conclusive and well-controlled trials comparing medical induction and D&E are lacking for second-trimester pregnancy termination [6,11,12].

The second surgical option is cesarean section. Besides the risk of operative morbidity and mortality, a cesarean section increases the risk of placental abnormalities such as placenta accreta and placenta previa and the risk of uterine rupture in subsequent pregnancies [13,14].

The mode of pregnancy termination in women with a uterine scar is controversial because these women have a higher risk of uterine rupture than those without a scar in the case of medical induction (3.8 versus 0.2%) [15]. Therefore, in the case of a uterine scar careful consideration of the risks is necessary before making a decision.

In the cases described in this report, expectant management in order to achieve vaginal birth showed a favorable outcome. In the case in which postponing delivery was not an option, since labor had started with the fetus in transverse lie, blood loss during the

cesarean section was limited to 1.5 L. If complete placenta previa is complicated by fetal death, we believe that delayed vaginal delivery should be considered to minimize the risk of complications.

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