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Case report

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Corresponding author: Ngalame Alphonse Nyong, Gynecologist, Douala Gyneco-Obstetric and Pediatric Hospital, Douala, Cameroon. anngalame2000@gmail.com

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Rescue cervical cerclage of the second twin at 21 weeks with favorable materno-fetal outcomes at the Douala Gyneco-Obstetric and Pediatric Hospital: a case report

Ngalame Alphonse Nyong[1,&], Kamga Talom Armand[2], Kamdem Diane Estelle[1], Moustapha Bilkissou[1], Ngo Mbi Martine-Michele[2], Ngo Batta Julie[1], Neng Humphry Tatah[1], Mboudou Emile[2]

[1]Gyneco-Obstetric and Pediatric Hospital, Douala, Cameroon, [2]Faculty of Medicine and Biomedical Sciences, University of Yaounde I, Yaounde, Cameroon

[&]Corresponding author

Ngalame Alphonse Nyong, Gyneco-Obstetric and Pediatric Hospital, Douala, Cameroon

Abstract

Multiple pregnancies are among the high-risk pregnancies. Common complications include threatened abortion, incomplete abortions and prematurity. These abortions may involve only one of the fetuses, resulting in a conservative therapeutic approach to preserve the remaining fetus or fetuses. We report the case of a delayed delivery of the second twin in a 28-year-old patient. She had benefited from a rescue cervical cerclage of the second twin at 21 weeks of amenorrhea (WA), followed by a Caesarean section at 34 WA, with favorable maternal-fetal outcomes. Our aim is to portray its therapeutic and prognostic particularities. From this uncommon clinical case, it is demonstrated that urgent management can improve the prognosis of the patient and of the remaining fetus.

Introduction

Rescue cervical cerclage is a recognized treatment for the management of cervical incompetence in the second trimester of pregnancy. Many case studies have been reported on the use of this technique with favorable outcomes [1-4]. However, very few authors have used it for delayed deliveries of the second twin [4,5]. Delayed twin birth is indeed a real challenge in obstetrical practice because it prolongs the intrauterine life of the fetus remaining after the premature expulsion of the first twin.

Patient and observation

We report a case of delayed delivery of the second twin in a 28-year-old married patient, G3P0020, with a history of two early spontaneous abortions. She had been admitted in the maternity ward with chronic pelvic pains on atwin gestation of 21 WA +2days. Thesepains have been intermittent since the 6th week of pregnancy without spotting and managed as threatened abortion with injectable slow release progesterone, phloroglucinol suppositories, and 100mg daily acetylsalicylic acid as anti-platelet aggregator. The course of the current pregnancy had been marked by recurrent pelvic pain. Infection status was normal. Hemodynamic parameters upon admission were stable, uterine height was 25cm, and vaginal examination showed a 2cm dilated cervix. Emergency obstetrical ultrasound revealed a 19 and 20 weeks bi-chorionic bi-amniotic twin pregnancy with first twin (T1) and second twin (T2) weighing 308g and 372g respectively, and the 35mm long cervix was found to be open at the internal os over a diameter of 38mm. An infectious work-up revealed a C-Reactive Protein (CRP) of 12 mg/l. The diagnosis of cervical incompetence was made. Emergency cerclage was indicated, lung maturation with betamethasone, tocolysis with nifedipine, slow release progesterone as well as amoxicillin-clavulanic acid antibiotics were initiated. About 3 hours later, while on the operating table under spinal anesthesia and prior to cerclage, we unfortunately observed a spontaneous rupture of the membranes of T1 and expulsion of the latter on the operating table during the preparation of the cerclage. We proceeded to ligate and section the cord at the level of the cervix with absorbable vicryl 2/0 suture and a cerclage on the second twin according to the Mc Donald technique was performed successfully under spinal anesthesia. It should be noted that the placenta of the second twin was held in place. Tocolysis and antibiotic protocols were continued.

The patient wore elastic stockings. An obstetrical ultrasound in the immediate post cerclage period revealed satisfactory cardiac activity of T2, sufficient amniotic fluid and no placental detachment. On the fourth day of hospitalization, she reported no uterine contractions, though she continued to observe traces of pervaginal bleeding. Discharge was authorized on the fifth day. Her control CRP was 31 mg/l and the obstetrical ultrasound revealed no abnormal findings. Amoxicillin clavulanic acid 1g/12h and slow release nifedipine 20 mg tablets/8h had to be pursued for 14 days, while progesterone 200 mg tablet/12h were to be taken till 33 WA. Oral hematinics were continued. She was advised to respect prolonged

bed rest, minimal physical activity and report for antenatal visits every 6 weeks and not 4 weekly as usual practice holds in the hospital. The evolution was marked by negative CRP results from 32WA, as well as the occurrence at 33 WA + 3 days of premature rupture of the membranes and the detection of a urinary Klebsiella pneumoniae infection on urine culture. An emergency obstetrical ultrasound showed a 32 WA + 3 days intrauterine pregnancy, with regular cardiac activity, severe oligo-amnios and an estimated fetal weight of 1936 g. A second lung maturation with two doses of injectable betamethasone, gentamicin-based antibiotic therapy and hygienic measures using sterile sanitary towels, were prescribed. At 34 WA + 2 days, we performed misoprostol induction for unfavorable Bishop score after removal of the cerclage wire. We observed an unsuccessful induction after 24 hours and an emergency caesarean section was performed, which resulted in the extraction of a live male newborn Apgar 8/10 at first minute and 9/10 at 10thminute, birth weight was 2100g, an anterior placenta, with a fibrotic tissue formation adhering to the posterior wall of the uterine cavity (remnant of the placenta of T1) giving the aspect of placenta acreta. We conditioned these tissues for pathological examination. The newborn was admitted at the neonatology intensive care unit for neonatal infection and anemia for two weeks, during which time he received blood transfusions and antibiotics. On day 4 post operatory, she developed urethritis and received oral antibiotics (MONURIL). She was discharged postoperatively on day 5. Pathological analysis of the placental sample was in favor of placenta acreta without malignancy. The mother-child couple was seen again at 6 weeks after delivery and in good health.

Discussion

Delayed delivery is defined as delivery in two or more stages, with spontaneous expulsion of a first fetus in the second or third trimester, and prolongation of pregnancy to deliver the remaining pregnant fetus(es) as close to term as possible [6]. Delivery cerclage is sometimes referred to as heroic cerclage because of its low success rate [3]. The data in the literature regarding this approach is controversial, although a few case series have demonstrated prolongation of pregnancy from 8 to 21 weeks with the use of delivery cerclage [7-11]. In addition, the notion of latency has been described and states that early delivery of the first twin is associated with a longer delay in the delivery of the second twin [2]. In the case of our patient, she had expelled the first twin at 21 WA + 2 days and we were able to prolong her pregnancy by 14 WA + 2 days (100 days) which was finally delivered by Caesarean section after a failed induction. A study conducted in the United States showed that delayed delivery accounts for 6.1% of twin pregnancies [12].

This case illustrates an obstetrical situation that practitioners are faced with. In the case of cervical incompetence in a second trimester, the important steps that will determine a good maternal-fetal prognosis are: exclusion of placenta abruptio, exclusion of acute fetal distress, prevention of uterine contractions, treatment and prevention of infection [6]. In our patient, we ensured the absence of placenta abruptio by ultrasound, prevented labor by nifedipine tocolysis and continued antibiotic therapy. MacDougal *et al*. recommend the use of interrupted nylon sutures on the cervix to reduce the risk of infection [13]. Thus, we opted for the Mac Donald technique in our patient using a strong and non-absorbable cervix set stitch. The advantage of ligating the cord close to the cervix is to limit the risk of infection [2]. Systematic tocolysis, whether therapeutic or preventive, is controversial. Some authors believe that contractions can reveal an infection and therefore preventing them could delay its diagnosis [14]. We opted for systematic tocolysis in our patient because there was discrete uterine activity after the release of the first twin, as proposed by Porreco *et al*. [15]. In addition, antibiotic prophylaxis remains systematic because the opening of the first amniotic sac and the exit of the first twin expose the patient and the fetus to an increased risk of infection by ascending route [5].

This was the case for our patient who developed urinary tract infection due to Klebsiella pneumoniae as well as the premature newborn who contracted early neonatal infection. However, both survived satisfactorily.

Conclusion

Rescue cervical cerclage in a context of delayed twin delivery has a two-fold interest. The first is to improve the maturity of the second twin and the second is to reduce the perinatal morbidity related to prematurity. This practice should be popularized in modern obstetrics. Its early realization under optimal conditions improves the maternal-fetal prognosis. Thus, the pregnancy on the second twin could be continued until full term or come close to term.

Competing interests

The authors declare no competing interests.

Authors' contributions

The authors read and approved the content of the manuscript. All authors also state that they have read and approved the final version of the manuscript.

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