

# Abdelazim and Shikanova suggested protocol of Ain Shams and West Kazakhstan Universities for management of delayed-interval delivery of the second twin: Case report

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### ABSTRACT

**Background:** The incidence of multiple gestations increased after the assisted reproductive techniques. Preterm labor and preterm premature rupture of fetal membranes are the most common complications of multiple gestations. Traditionally, if one fetus is delivered preterm in twin pregnancies, the situation is managed by delivery of the second fetus. Recently, there are reported cases of delayed-interval delivery (DID) of the second twin, with good outcome without established protocol for management of such cases. This report presents the protocol suggested by Abdelazim and Shikanova for the management of DID of the remaining second twin. **Conclusion:** The birth weight and the survival rate increased after Abdelazim and Shikanova suggested protocol for management of DID of the remaining second twin without any maternal risks or complications. DID should be done in tertiary centers after informing the parents about the possible risks of keeping the live second twin in the hostile intrauterine environment.

**Keywords:** Abdelazim, delayed, delivery, interval, Shikanova

### Introduction

The incidence of multiple gestations increased owing to assisted reproductive techniques (ARTs).<sup>[1]</sup> Preterm labor (PTL) and preterm premature rupture of fetal membranes (PPRFM) are the most common complications of multiple gestations.<sup>[2]</sup> Traditionally, if one fetus is delivered preterm in twin pregnancies, the situation is managed by the delivery of the second fetus. Recently, there are reported cases of delayed-interval delivery (DID) of the second twin, with good outcome without established protocol for management of such cases.<sup>[3]</sup> This report

represents the protocol suggested by Abdelazim and Shikanova for management of DID of the remaining second twin.

### Case Report

A 29-year-old woman, P2 (previous two cesarean deliveries), twin pregnancy after ART, presented with PPRFM and delivered a fresh still birth (FSB 430 g) first twin at 22<sup>+3</sup> weeks' gestation.

The parents agreed and signed written consent for Abdelazim and Shikanova suggested protocol for management of DID of the remaining second twin. After delivery of the first fetus, the umbilical cord was ligated as high as possible in the cervix under complete aseptic condition and the placenta left *in situ* followed

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by vaginal washes with 0.5% chlorhexidine (bacteriostatic). Studied woman received systemic antibiotics (IV ampicillin for 2 days, followed by oral amoxicillin for 5 days combined with erythromycin for 10 days) and discharged home for follow-up every 3 days using infection (white blood cells count, CRP, and pro-calcitonin weekly), consumptive coagulopathy parameters (platelet count, bleeding, clotting, and prothrombin times weekly), and wellbeing of the second fetus every 3 days (twice weekly) through conservative treatment till 34 weeks.<sup>[1]</sup> Betamethasone was given for lung maturity and magnesium sulfate for neuroprotection of the second remaining twin at 24 gestational weeks.<sup>[4,5]</sup>

She delivered by cesarean section (CS) at 34 weeks (11 weeks + 4 days of conservative treatment), baby boy 1.68 kg (1.25 kg weight difference from the first FSB fetus), received surfactant 10 min. after delivery, admitted to neonatal intensive care unit (NICU) for 12 days on ventilator support, and discharged at 2.2 kg in good general condition. No maternal complications were recorded during the DID of the remaining second twin.

## Discussion

Incidence of multiple gestations increased, and DID is common nowadays after ARTs.<sup>[3]</sup> After delivery of the first fetus at 22<sup>+3</sup> weeks' gestation, the parents were informed about the possible risks of keeping the live second twin in hostile intrauterine environment (recurrent PTL, infection, postpartum hemorrhage, and consumptive coagulopathy).<sup>[6]</sup>

The studied woman delivered the second twin by CS at 34 weeks (11 weeks + 4 days of conservative treatment and 1.25 kg weight difference from the first FSB fetus), admitted to NICU for 12 days, and discharged in good general condition. The birth weight and the survival rate of the remaining second twin increased after following Abdelazim and Shikanova suggested protocol for management of DID without any maternal complications.

DID of the second infant has a positive effect on short-term outcome,<sup>[6]</sup> and is beneficial for the second twin if managed in tertiary centers.<sup>[7]</sup>

Arabin and van Eyck concluded that the DID associated with better perinatal results if the birth of the first twin happens between 20 and 29 weeks'.<sup>[8]</sup>

DID is useful in patients with history of infertility, but requires careful monitoring.<sup>[9]</sup> Roman *et al.* concluded that the DID increases the second twin survival rate, with significant risk of serious maternal morbidity.<sup>[10]</sup>

The Abdelazim and Shikanova suggested protocol for management of DID of the remaining second twin include ligation of the umbilical cord as high as possible in the cervix

under complete aseptic conditions and the placenta left inside the uterus, followed by combined systemic antibiotics (IV ampicillin for 2 days, followed by oral amoxicillin for 5 days with erythromycin for 10 days).<sup>[11]</sup>

Regular follow-up every 3 days for infection, consumptive coagulopathy parameters, and wellbeing of the remaining second twin.<sup>[10]</sup>

Fetal wellbeing of the remaining second twin was evaluated by fetal movements count, fetal heart rate record, and/or cardio-tocography (CTG) every 3 days and transabdominal ultrasound weekly for amniotic fluid volume, umbilical artery Doppler, and fetal growth.

No tocolysis was given for the studied woman through the suggested protocol for management of DID and/or after delivery of the first fetus.<sup>[11]</sup> Tocolysis can be only used for 48 hours if uterine contractions developed after 24 weeks in combination with betamethasone and magnesium sulfate (after exclusion of chorioamnionitis).<sup>[8]</sup> Moreover, tocolysis is not indicated <24 weeks because the type II pneumocytes are not completely developed to release the surfactants.<sup>[11]</sup>

The most controversial issue during DID is the cervical cerclage. In this report, no cervical cerclage was performed because of the risk of infection associated with the cervical cerclage.

Doger *et al.* have suggested that the use of cervical cerclage during DID leads to prolongation of the delivery interval.<sup>[11]</sup> Arabin and van Eyck have suggested that the use of cervical cerclage during DID is associated with risks of infection.<sup>[8]</sup> In addition, Fayed *et al.* and Reinhard *et al.* concluded that the use of cerclage during DID did not improve the survival of the second twin.<sup>[7,12]</sup>

Fayed *et al.* stated that despite increasing incidence of multiple pregnancies and PTL, there is no available established protocol for management of DID.<sup>[11]</sup> In addition, Cozzolino *et al.* concluded that, although no protocol for DID currently exists, an excellent outcome for the second twin is possible if managed in tertiary centers.<sup>[3]</sup> This report presents Abdelazim and Shikanova suggested protocol for managing DID of the remaining second twin.

## Conclusion

The birth weight and the survival rate increased after Abdelazim and Shikanova suggested protocol for management of DID of the remaining second twin without any maternal risks or complications. DID should be done in tertiary centers after informing the parents about the possible risks of keeping the live second twin in the hostile intrauterine environment.

## Declaration of patient consent

The authors certify that they have obtained all appropriate consent forms from the parents. Parents have given their consent for their images and other clinical information to be reported in

the journal. Parents understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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### Conflicts of interest

There are no conflicts of interest.

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