

Conservative Management of Twin Pregnancy After Delivery of One Fetus at the Second Trimester of the Pregnancy

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Abstract

Objective: To investigate the results of therapeutic modalities in second trimester twins, following the birth of the first twin.

Methods: Seven cases were investigated for their clinical features and prognosis, in which cases either active conservative treatment was implemented following the birth of first twin or no treatment was implemented to delay the birth of second twin.

Results : The mean gestational week was 18.7 ± 4.1 (13-26). All four cases of no treatment were miscarried. The deliveries of the other three pregnancies with emergency cerclage, were delayed by 2, 40 and 42 days. In these cases, the perinatal prognosis was unsuccessful; however there were no maternal complications.

Conclusion: For multiple pregnancies with limited survivability, delayed delivery of the second twin could be tried; the result of prognosis may not be positive in all cases.

Keywords: Multipl pregnancy, selective delivery, emergency cerclage, delayed delivery of second twin, conservative management.

Gebeliğin ikinci trimesterinde ikizlerden birinin doğumunu takiben konservatif yaklaşım

Amaç: İkinci trimester ikizlerde birinci fetüsün doğumunu takiben tercih edilen tedavi seçeneklerinin sonuçlarının araştırılması.

Yöntem: Birinci fetüsün doğumundan sonra aktif konservatif tedavi yapılan veya herhangi bir tedavi uygulanmayarak ikinci fetüsün doğumu geciktiren yedi vaka klinik özellikleri ve prognoz yönünden irdelendi.

Bulgular: Gebelik haftası ortalama 18.7 ± 4.1 (13-26) bulundu. Konservatif davranılan olguların dördü de kaybedildi. Acil serklaj uygulanan üç gebelikte ikinci fetüsün doğumu 2, 40 ve 42 gün süre ile geciktirilebildi. Bu olgularda perinatal prognoz olumsuz olmakla birlikte maternal komplikasyona rastlanmadı.

Sonuç: Yaşayabilirlik sınırına yakın ikizlerde ikinci fetüsün geciktirilmiş doğumu denenebilir, ancak prognoz her zaman yüz güldürücü olmayabilir.

Anahtar Sözcükler: Çoğul gebelik, selektif doğum, acil serklaj, ikizlerde geciktirilmiş doğum, konservatif yaklaşım.

Introduction

The frequency of multi-fetal pregnancies have increased significantly in the last 20 years because of ovulation induction and IVF.¹ multi-fetal preg-

nancies carry high risk of premature birth and as a result of perinatal morbidity and mortality.² In these pregnancies following the delivery of the first fetus the other fetus or fetuses are born a short

time after. Usually because of premature birth the prolongation of the time between the delivery of the fetuses and viability of the fetuses born after is rare.³ there is no consensus on the procedures that can be performed following the birth of one of the twins to prolong the gestation for the unborn fetus. For this purpose interventions like emergency cerclage, tocolysis have been tried and 2 to 107 days were gained and the prognosis of the newborns varied.^{4,5}

In this presentation, we aimed to investigate the effects of the approaches taken in diamniotic-dichorionic cases where only one fetus were born to the duration and prognosis of the pregnancies.

Methods

Between the years 2000 and 2004, in seven twin pregnancy cases attending with a threat of abortion or premature birth in the first or second trimester of pregnancy, with the first fetus delivered and the second followed up in our clinic, demographic data, the clinical approaches that were followed, methods of intervention, the length of time the pregnancies could be prolonged and the morbidity and mortality of the pregnant women and fetus were assessed retrospectively. Cases in which active conservative approach was taken and spontaneous follow up was done were selected randomly.

Results

In the cases investigated the gestational week was between 13 and 26, in average was 18.7 ± 4.1 . The average age of the women were 27.8 ± 5.9 (18-34). The average number of pregnancies was 2.8 ± 1.8 , the number of children living were 1.4 ± 1.5 . Two patients were nullipara; the other 5 patients were multipara. Two of the women achieved pregnancies after infertility treatment (Table 1).

In all of the cases except one both of the fetuses were alive and all the pregnancies were dichorionic diamniotic. While four of the cases were followed up spontaneously cerclage was performed in three. The families requested that the pregnancy be prolonged, cerclage was recommended by us, but important risks such as sepsis were explained in detail and consent was taken before the procedure. In the three cases in which emergency cerclage were performed all the procedure was performed under general anesthesia in operation rooms and smear was taken for bacteriological investigations in trandelenburg position. Following the ligation of the umbilical cord from above with a material that is not absorbed, front and back cervix walls were caught by forceps, 5 mm Mersilene Tape (Ethicon RS-21, Ethicon Inc, Somerville, New Jersey, USA) was used and ligation was done with the Mc Donald method. Indometacin and nifedipine were given to the patients who had cerclage before the 20th gestational week as tocolytics and after the 20th week parenteral ritodrin was given.

Table 1. Following the birth of one of the twins demographic characteristics cases that cerclage is performed and not performed.

Age	Case	G,P,C	Gestational age	Cerclage	Tocolysis	Antibiotic	Birth weight (g)	Apgar score (1'-5')	Delay (day)	Survival
1	25	4,3,0	17	Mc Donald	Nifedipine Indometacin	Ampicillin Metranidazole	150 / 550	4/2	42	- / -
2	32	2,0,1	13	Mc Donald	Nifedipine Indometacin	Ampicillin Metranidazole	80/280	0/0	40	-/-
3	23	1	20	Mc Donald	Ritodrin	Ampicillin Metranidazole	320/380	4/0	2	-/-
4	34	4,3	21	Not done	Not done	Ampicillin Metranidazole	400/470	4/0	4	-/-
5	31	6,3,2	26	Not done	Not done	Ampicillin Metranidazole	770/1080	6/4	7	-/-
6	32	2,1	18	Not done	Not done	Ampicillin Metranidazole	190/240	2/0	3	-/-
7	18	1	16	Not done	Not done	Ampicillin Metranidazole	100/230	2/0	3	-/-

Prophylactic antibiotic (ampicillin + metronidazole) for 10 days was planned for all the patients and even if there was an abortion this treatment was used. In daily follow up the fetal heart sounds fever, uterine sensitivity, control of discharge and leucocyte number were examined. All the patients were hospitalized following the birth of the first fetus. Usually going back to everyday activities were permitted within a week as vaginal discharge decreased. The women who left the hospital after 10 days were followed by weekly ultrasonography for fetal parameters, for infection criteria tests were performed first weekly than once in 15 days.

The four cases followed up conservatively had abortion or delivery within 3 to 7 days. In two of the three cases in the cerclage group a duration of 40 and 42 days were gained, one case had abortion within 48 hours. All the fetuses were born with vaginal labor. The first minute and fifth minute Apgar scores of all the fetuses were under 5. Of the first fetuses born four were born vaginally, four males and three females. Among these one was dead at birth; others were alive but were lost within the first 24 hours. In all the cases the reason of death was high degree of prematurity. The interval between the first fetuses and the ones born after being delayed was between 2 and 42 days (28.0 ± 22.5). In the postpartum assessment of the placentas all were found to be diachronic. Significant maternal morbidity was not seen in those who had cerclage and those who did not have during the follow up time and post abortion-birth.

Discussion

In multi-fetal pregnancies the expectation as a result of premature rupture of membranes in the second trimester is the delivery of the fetuses with short intervals. Sometimes following the birth of the first fetus contractions may cease. The common approach today is to facilitate the birth of the second fetus because of poor results.⁶ In 1880 Carson 1880 published the first case where 44 days were present between the birth of the twins.⁷ In 1994 Kalchbrenner et al developed a protocol for delaying birth and the cases to be selected.⁸ According to this:

1. The multi-fetal pregnancy should be between 18 and 24 weeks,
2. The second pregnancy should be diamniotic,
3. The pregnancy sac to be preserved should not be damaged,
4. These should not exist: fetal distress, placen-

ta decolmant and intraamniotic infection. Although in literature presentations made on this subject and many retrospective case series are present there is no randomized trial conducted. Especially there is no controlled study comparing emergency cerclage with prophylactic cerclage or bed rest.⁹ because of this in terms of proof dependent medicine making the last decision in solving this problem does not seem possible. Novy compared 39 second trimester cases with emergency cerclage with 31 second trimester cases who had bed rest, in the group who had cerclage fetal survival was 80% and in the other group 75%.¹⁰ In another study fetal survival in 20 emergency cases were found to be 55%,¹¹ and in 32 second trimester emergency cerclage cases 48% fetal survival was detected.¹² the average prolongation times of the above pregnancies were stated as 1 to 14 days. These comparisons do not give net results to the clinicians for the management of such conditions because the case groups are small, selection criteria are insufficient and there is prejudice in selection.

In our cases especially in the smallest one the fact that the pregnancy was achieved after IVF and the persistent behavior of the family caused cerclage to be performed at the very beginning of the second trimester, the pregnancy could be prolonged until the 20th week, but could not be prolonged longer. Under intensive follow up conditions and close clinical follow up a 2 to 42 day delay in the pregnancies we followed up was possible. This interval was longer in those who had a cerclage. In the pregnant women we investigated no comment on survival could be made because the delivery times were very early.

There are not enough data to decide on the advantage of prophylactic antibiotic use in emergency cerclage cases. Of the three studies conducted on this subject two are for the use of prophylactic antibiotics and one is against.¹³⁻¹⁵ we preferred using prophylactic antibiotics.

In literature there is also no consensus on the usage of prophylactic tocolytic therapy to delay the birth of the second twin. In a study conducted prophylactic tocolysis had positive input to the 23 of the 25 patients.¹⁶ In his own series Wittmann thinks that tocolysis is not helpful.¹⁷ we used indometacin, nifedipine and after the 20th week parental tocolysis in our cases and were successful in two of the three cases in short and middle term.

Some researches let the patients exit the hospital after the cerclage. We preferred 10 days of hos-

pitalization and bed rest, and performed weekly follow ups in the next period.

Under the conditions of our country emergency cerclage should not be accepted as a standard approach to prolong the intervals between deliveries in pregnancies less than 24 weeks. But after the 24th week when fetal viability starts it could be a method that improves the prognosis of the fetus by preventing the complications of premature birth. In our cases emergency cerclage did not prevent premature birth but prolonged the duration of the pregnancy. Although the number of cases were low, this prolonged time seems to improve the status and life conditions of the infant born prematurely because the application date is in more advanced gestational weeks. Besides, this additional time gained may provide time for the corticosteroids used to mature the fetal lungs. In such situations the risk of the premature birth of the baby and the risk of the anesthesia and tocolysis applied to the mother must be balanced. Risks should be explained and the patient should be prepared psychologically.

Conclusion

Delayed premature labor may be a beneficial approach in twin pregnancies in which one of the fetuses are born. This management strategy is generally referred to as conservative therapy. Active conservative therapy, bed rest, continuous hospitalization or hospitalization in intervals, high ligation of the umbilical cord of the first twin born, tokolytic therapy, antibiotic therapy either continuous or at intervals, in addition starting corticosteroids after 26th week, although there is no net consensus cerclage may be preferred in these cases. Regular clinic and ultrasonographic examinations and laboratory follow up should be done for the signs of chorioamnionitis that is a contraindication for conservative therapy. Because such pregnancies are not encountered frequently prospective studies are difficult to make and only retrospective studies can be found on this subject. In the studies published there is not enough information about the medium and long term development of the surviving neonates. Although restricted the information obtained from these small series show that pregnancies can be extended in the second trimester until 40-42nd day. After the 22-24th gestational weeks such interventions conducted at tertiary centers may be helpful in some cases with the as long as informed consent is taken. But it must be remem-

bered that interventions performed previously may cause harm instead of help.

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