Management of Patients with Symptomatic Placenta Previa in Preterm Gestations

PRETERM GEBELERDEKİ SEMPTOMATİK PLACENTA PREVİA'NIN YÖNETİMİ

Arda LEMBET*, C. Gürkan ZORLU*, Hakan R. YALÇIN*, Oya GÖKMEN*

*Dr., Dr.Zekai Tahir Burak Women's Hospital, Ankara, TURKEY

Summary

Objective: To evaluate the outcome of women with symptomatic placenta previa in preterm gestations and to compare the outcome between the patients who received tocolysis and who did not.

Institution: Dr. Zekai Tahir Burak Women's Hospital, Ankara.

Material and Methods: Retrospective data analysis of 85 women with symptomatic placenta previa was performed. Of these 85, 38 required tocolytic therapy while others were managed expectantly. Patients who required tocolytic medication were compared with those who were managed expectantly.

Results: Demographic characteristics, the duration of bleeding in patients who had recurrent bleeding episodes, presence of uterine contractions in patients with recurrent bleeding, prolongation of pregnancy from initial bleeding until delivery, gestational age at birth, birth weight and neonatal outcome were compared and no significant difference was found between the two groups. The number of patients who needed blood transfusions were higher in the tocolysis group.

Key Words: Placenta previa, Tocolysis, Expectant management

T Klin J Gynecol Obst 2001, 11:149-151

Özet

Amaç: Preterm gebelerdeki semptomatik placenta previalı hastaların sonuçlarının değerlendirilmesi ve tokoliz uygulanan ve uygulanamayan grupların karşılaştırılması.

Çalışmanın Yapıldığı Yer: Dr. Zekai Tahir Burak Kadın Hastanesi, Ankara.

Materyel ve Metod: Bu çalışmada 85 semptomatik placenta previalı hastanın retrospekti data analizi yapılmıştır. 85 hastanın 38'ine tokolitik tedavi uygulanırken diğerleri tedavi verilmeden izlenmişlerdir. Tokolitik tedavi alan grup ile tokoliz almayan ve ekspektan tedavi ile izlenen iki grup karşılaştırılmıştır.

Sonuçlar: İki grup arasında demografik özellikler, tekrarlayan kanama epizodları sayısı, tekrarlayan kanama epizodlu hastalardaki uterin kontraksiyonlar, ilk kanamadan doğuma kadar olan gebelik zamanındaki uzama, doğumdaki gestasyonel yaş, doğum ağırlığı ve neonatal sonuç karşılaştırılmış ve anlamlı bir fark bulunamamıştır. Kan transfüzyonu gere-ken hasta sayısı tokoliz grubunda daha fazla bulunmuştur.

Anahtar Kelimeler: Plasenta previa, Tokoliz, İzlem tedavi

T Klin Jinekol Obst 2001, 11:149-151

Placenta previa has been one of the great concerns in obstetric practice as it is associated with considerable perinatal morbidity (1). Patients with placenta previa, usually experience third trimester vaginal bleeding resulting from the lower uterine segment thinning (2,3). Bleeding is painless in most instances without an apparent causative factor such as preterm uterine activity. Disruption of the placental implantation site has been argued as a main reason for bleeding. Management of patients with symptomatic placenta previa mainly targets a reduction of maternal bleeding and prevention of preterm birth and thus, the overall maternal and fetal morbidity decreases. Recently a conservative approach has gained popularity among obstetricians as it provides reduction of fetal morbidity without enhancing maternal morbidity. Although tocolytic therapy may be considered in the management of symptomatic placenta previa, close patient monitoring and fetal assessment are still the mainstays of therapy.

In the present study, retrospective data analysis of patients with placenta previa presenting with vaginal bleeding and preterm uterine contractions was done.

Materials and Methods

Patient charts of eighty-five women suffering from placenta previa with initial episode of vaginal bleeding who were admitted to Dr. Zekai Tahir Burak Women's Hospital between January 1, 1994 and December 31, 1995 were reviewed. Patients enrolled into the study had uterine irritability or regular moderate to strong contractions docu-

Geliş Tarihi: 19.06.2000

Yazışma Adresi: Dr.Arda LEMBET
Dr.Zekai Tahir Burak Kadın Sağlığı
Eğitim ve Araştırma Hastanesi, ANKARA

mented by the tocodynometre and/or palpation. Patients with placenta previa who did not have any bleeding episodes in the current pregnancy and with a gestational age greater than 35 weeks in admission who delivered within 24 hours of admission because of heavy bleeding and/or fetal distress, were not included into the analysis. Placenta previa was diagnosed by a transvaginal or transabdominal ultrasound.

Patients were hospitalized at admission and fetal heart tones along with uterine contraction monitoring were performed. In 38 cases with regular uterine contractions, intravenous ritodrine hydrochloride was started and oral maintenance was provided following cessation of uterine contractions. Intravenous ritodrine was started at a dose of 50 μg/min and increased by 50 μg/min every 10 minutes until contractions cease or until a maximum of 350 μg/min dosage was obtained. Once uterine quiescence was obtained the minimal effective dose was maintained for 12 hours. Magnesium sulfate was administered when there was any absolute contraindication to ritodrine hydrochloride. MgSO4 was given as a bolus of 4-6 grams over 20 minutes and a maintenance of 2-4 g/hour was administered depending on the contraction pattern. The remaining cases were managed expectantly by in-house bed rest. Following cessation of the vaginal bleeding and uterine contraction, patients were discharged and recommended to continue to bed-rest, with avoiding intercourse and vaginal douching. Also patients were recommended to do fetal movement charting. All patients with recurrent bleeding and uterine contractions were re-hospitalized and managed accordingly. All patients received glucocorticoid therapy for induction of lung maturity and weekly maintenance and/or re-administration was provided in cases of strong suspicion of preterm birth.

Patient charts were reviewed with respect to clinical parameters including initial vaginal bleeding episode, time elapse until delivery, recurrent bleeding episodes, blood transfusions, mode of delivery, gestational week at birth, birth weight and APGAR scores. The patients who received tocolytic therapy and who did not, were compared with each other. Student-t test, Chi-square and Fisher's exact test where appropriate, were used for statistical analysis and a p value of <0.05 was considered significant.

Results

Demographic characteristics of our study group are demonstrated in Table 1. No significant difference was found between two groups regarding maternal age, parity, history of miscarriage and multiple pregnancy.

Thirty-eight patients received ritodrine tocolysis (Group I) and 47 patients were managed expectantly with no tocolysis (Group II). In 26 (30.5%) patients of the entire group, bleeding preceded the uterine contractions and among these 12 patients had regular moderate/strong uterine contractions, which necessitated tocolysis. Thirty-three patients in group 2 gave a pre-admission history of uterine contractions followed by bleeding. However, in-house evaluation of these patients revealed only uterine irritability in 27 of them and in the remaining 6, uterine contractions subsided on expectant management. In the entire group, 33 cases had recurrent bleeding and of these, 22 were from the tocolysis group in which 4 (18%) experienced uterine contractions where remaining 18 (82%) had only uterine irritability documented by tocodynometer. On the other hand, the remaining 11 cases with recurrent bleeding were from group 2 (no tocolysis). Of these, two (18%) patients had increased uterine contractions during expectant management and responded well to tocolytic medication but the remaining 9 had no contractions. Uterine irritability in our study was defined as any irregular non periodic spikes of increased uterine pressure above the resting uterine tone, that may or may not be perceived by the patient. No severe complication (pulmonary edema, cardiovascular abnormalities, hypopotasemia eg.) occurred in the tocolysis group. However in 5 patients ritodrine infusion was temporarily discontinued due to maternal intolerance (chest tightness and palpitations). None of those patients revealed ECG abnormalities.

Table 1. Comparison of demographic characteristics of patients in tocolysis group versus no-tocolysis group at admission

Demographic Characteristics	Tocolysis (Group 1)	No-Tocolysis (Group 2)	p
Maternal Age	27.3±4.2	26.5±5.2	NS
Miscarriage	26.3%	19.1%	NS
Parity			
0	39.5%	51.1%	NS
1	23.7%	14.9%	NS
2	21.1%	19.1%	NS
3	10.5%	6.4%	NS
4≤	5.3%	8.5%	NS
Multiple Pregnancy	2.6%	2.1%	NS
Previous Cesarean	27.0%	21.0%	NS

Mean gestational age at the first bleeding episode was 29.3±3.9 weeks in the tocolytic therapy group and 30.1±4.0 in the no tocolytic therapy group and the difference was not significant. Time elapse from first admission to delivery was similar in both groups. The number of patients with recurrent bleeding episodes were more common in group 1. However, the duration of the bleeding and the number of bleeding days per patient were not statistically significant in patients who had recurrent bleeding episodes. Blood transfusion was required in 39.5% of patients in group 1 and 17% in group 2. When patients who did not require blood transfusion were compared in between two groups, mean hematocrit drop in group 1 and 2 were found to be 6.4% and 5.8% respectively but the difference was not statistically significant (Table 2).

Table 2. Outcome parameters of tocolysis and no-tocolysis group

Gestational Parameter	Tocolysis n=38	No-Tocolysis n=47	p
Gestational age at first bleed (weeks)	29.8±3.9	30.1±4.0	NS
Birth weight (grams)	2536±221	2602±241	NS
Gestational age at birth (weeks)	35.9±1.9	36.2±3.4	NS
5-minute APGAR scorea <7 (number of neonates)	3	4	NS
Time elapse till delivery (days)	6.2±2.4	5.8±3.5	NS
Recurrent bleed episode			
days (mean)	1.2	2.1	NS
n (patients)	22	11	S
bleeding days/patients	0.71	0.49	NS
Placentation			
Complete	29%	26%	NS
partial	71%	74%	NS
Transfusion rate	39.5%	17.0%	S
Decrease in Hematocrit (in the nontransfusion group)	-6.4%	-5.8%	NS

Gestational age at birth was 35.9±1.9 weeks in group 1 and 36.2±3.4 weeks in group 2. In addition, birth weight was found to be lower in group 1 patients, but the difference was not significant. The frequency of patients with 5-Minute APGAR scores less than 7, were also similar in the two groups (Table 2). Ne neonatal death was seen in each group.

Discussion

Symptomatic placenta previa classically presents with painless vaginal bleeding in the third trimester (2,3). Uterine contractions accompany the vaginal bleeding in at least 20% of the cases (4). Whether the uterine contraction is suspected as a cause or an unprejudiced result of the vaginal bleeding has not been clarified well. In our series 30.5% of patients experienced vaginal bleeding preceding uterine contractions and thus, we could hypothesize that vaginal bleeding possibly causes uterine irritability and if once vaginal bleeding precedes uterine contraction, recurrence of both symptoms is highly probable. However a precise conclusion can not be made solely based on our data interpretation and more spesific studies are needed to clarify this issue.

Prolongation of gestation in cases with vaginal bleeding preceding the uterine contractions of any kind was succeeded more commonly than the patients in whom uterine contractions were the preceding symptom (7.3±2.1 weeks and 5.2±2.7 weeks respectively) (5). This well may be related to the fact that the uterotonic effect of prostaglandins released from areas of placental separation might have been eliminated more successfully by tocolysis. However, in a recent study prophylactic tocolysis demonstrated no protective effect on uterine contractions (6). The reality that even instructed mothers could detect only 15% of the documented contractions (7) leads us to consider a bias as 42% of the patients did not feel their contractions prior to admission and we do not exactly know what percentage of vaginal bleeding was preceding among these. On the other hand, it was shown that some women with placenta previa had bleeding that was preceded by regular uterine contractions (8).

As a summary, in our review of patients with placenta who presented with vaginal bleeding, patients who had tocolysis were not different from the non tocolysis group within the perspective of gestational age at delivery, birth weight and prolongation of pregnancy. Patients in the tocolysis group eventually needed more blood transfusions, however this finding might be related to the difference in the characteristics of the patient population in the two groups, as the presence of regular uterine contraction in tocolysis group might also act as a confounding variable. The information we obtained from the detailed patient history and after the initial evaluation of the patients made us believe that a pregnancy is more often successfully prolonged in the patients when bleeding preceded contractions. However our results should be evaluated by caution due to limited number of patients and due to the retrospective design of the study.

KAYNAKLAR

1. Newton ER, Barss R, Cetrulo CL. The epidemiology and clinical history of asymptomatic mid-trimester placenta previa. Am J Obstet Gynecol 1984; 148:743-8.
2. Scott JR, Goplerud CP. Late pregnancy bleeding. In: Danforth's Obstetrics and Gynecology, 6th ed. Philadelphia: Lippincott, 1990: 553-65.
3. Cunnigham FG, McDonald PC, Gant NF, eds. Obstetrical hemorrhage. In: Williams Obstetrics, 18th ed. Norvolk, Connecticut: Appleton & Lange, 1989: 713.
4. Clark SL. Third trimester hemorrhage. In: Eden RD, Boehm FH, eds. Assessment and Care of the Fetus, 7th ed. Norvalk, Connecticut: Appleton & Lange, 1990: 224.
5. Lavery JP. Placenta previa. Clin Obstet Gynecol 1990; 33:414-21.
6. Magann EF, Johnson CA, Gookin KS, Roberts WE, Martin RW, Morrison JC. Placenta previa: does uterine activity cause bleeding? Aust NZ J Obstet Gynaecol 1993; 33:22-4.
7. Brustman LE, Langer O, Anyaegbunam A, Belle C, Merkatz IR. Education does not improve patient perception of preterm uterine contractility. Obstet Gynecol 1990; 76:97-101.
8. Martin JN Jr, McColgin SW, Martin RW, Roach H, Morrison JC. Uterine activity among a diverse group of patients at high risk for preterm delivery. Obstet Gynecol 1990; 76:47-51.