Idiopathic Thrombocytopenic Purpura in Pregnancy: A Case Report

GEBELİKTE İDİOPATİK TROMBOSİTOPENİK PURPURA:BİR VAKA SUNUMU

Tuğba GEZGİN*, Mehmet Emin SOYSAL**, Seyide SOYSAL**

* Asis.Dr., Dept. of Obstetric and Gynecology, Medical School of Pamukkale University,
** Doç.Dr., Dept. of Obstetric and Gynecology, Medical School of Pamukkale University, Denizli, TURKEY

Summary

Objective: To present the management of a case with immune thrombocytopenic purpura (ITP) during pregnancy.

Institution: Pamukkale University, Faculty of Medicine

Case Report: We present our experience in a case with ITP near term. Thrombocytopenia was noticed at 34th week of gestation. Despite oral fluocortolone 40 mg/day and intravenous dexamethasone 10 mg/day, thrombocyte count decreased to 23000/mm3 level. As cesarean delivery was planned, patient received 20g i.v. gammaglobulin two times twelve hours apart and the thrombocyte count increased above 50000/mm^3. During the postoperative period no maternal and neonatal complications occured.

Conclusion: Intravenous gammaglobulin is a safe method for increasing thrombocyte counts of the mother and the fetus during pregnancy and the neonatal period.

Key Words: ITP, Pregnancy, Gammaglobulin, Emergency surgery

T Klin J Gynecol Obst 2003, 13:319-321

Özet

Amaç: İmmün trombositopenik purpuralı (ITP) olguya gebelik sırasındaki yaklaşımı sunmak

Çalışmanın Yapıldığı Yer: Pamukkale Üniversitesi, Tıp Fakültesi

Olgu Sunumu: Term gebeliği olan ITP'li bir olguda deneyimimizi rapor ediyoruz. Hastanın trombosit sayısındaki düşüklük 34. gebelik haftasında fark edildi. Günlük oral fluokortolon 40 mg ve takiben intravenöz deksametazon 10 mg verilmesine rağmen hastanın trombosit sayıları 23000/mm^3 seviyesine kadar düştü. Sezaryen doğum planlanan olguya intravenöz gammaglobulin 20 g oniki saat arayla iki kez verilerek trombosit sayıları 50000/mm^3 seviyesinin üzerine yükseltilebildi. Postoperatif dönemde anne ve yenidoğanda herhangi bir komplikasyon görülmedi.

Sonuç: İntravenöz gammaglobulin gebelikte, doğumda ve neonatal dönemde maternal ve fetal trombosit sayısını kontrol etmek için yeni ve güvenilir bir yol olarak önerebilir.

Anahtar Kelimeler: ITP, Gebelik, Gammaglobulin, Acil cerrahi

T Klin Jinekol Obst 2003, 13:319-321

ITP is usually a consequence of an immune process in which antibodies are directed against platelets. Antibody coated platelets are destroyed prematurely in the reticuloendothelial system (1), especially in the spleen. ITP is characterized by a decreased platelet count due to destruction mediated by antiplatelet antibodies (2). There is no evidence that pregnancy increases the risk of relapse in women with previously diagnosed immune thrombocytopenia. Nor does it make the condition worse in women with active disease. It is certainly not unusual for women who have been clinical remission for several years to have recurrant thrombocytopenia during pregnancy; however, this may be because of closer surveillance. Hyperestrogenemia has also been suggested as a cause (1). ITP is present in 0,01 to 0,02% of women at the time of delivery (3).

Untreated ITP in adults may be life-threatening and the response to prednisone, splenectomy, with immunosuppressive agents (4) or intravenous gammaglobulin (5) has been defined. The problem for the mother may be more serious in pregnancy (6), with additional hazards to the fetus (7) as a result of transplacental passage of maternal immunoglobulin (8). In a pregnant woman with ITP, these antibodies can cross the placenta and may cause a fall in fetal platelet number and at worst bleeding may ensue in the form of an intracranial hemorrhage (9,10). Several investigators have advocated cesarean section delivery to prevent intracranial hemorrhage in the fetus (11,12).

Case Report

A 24 year-old woman, gravida 1, para 0, was first diagnosed with ITP 15 years before the current pregnancy. At that time the patient had spontaneous nose bleeding. The patient was treated with medication which lasted 5 months. Since then, she didn't receive any treatment.

The patient had her first prenatal visit at 31 weeks of gestation. She reported no complaints. She denied fevers, chills, and recent viral illness, as well as recent use of alcohol, drugs or any medications. Her blood pressure was normal Laboratory results included a negative human immunodeficiency virus (HIV) test with normal liver function studies and electrolytes. Laboratory workup included a platelet count of 55.000/mm^3 without a significant symptom. At the 34th week of gestation, she was given oral fluocortolone 40 mg. per day (2x20 mg) (Ultralan ®, Schering, Istanbul). At the 36th week of gestation the platelet count was found to be 48.600/mm^3 At that time, she was prescribed intravenous dexamethasone (Decort ®, Deva, Istanbul) 2x5 mg daily for two days. The repeat platelet count was 31.600 mm^3, on the third day, and 23.000 mm^3 on the sixth day. The membranes ruptured spontaneously at 37 weeks. The patient received intravenous gammaglobulin (Tegeline ® Lfb Er-kim Istanbul) 20 g four hours before the rupture of the membranes. Twelve hours later, she received infusion of 20 g of gamma globulin again. She had uterine contractions. She was given 500 mg intravenous methyl-prednisolone (Prednol-L ®, Mustafa Nevzat İstanbul). Due to intracranial bleeding during vaginal delivery;cesarean delivery was planned. We used a pfannerstiel incision and the operation lasted approximately 30 minutes. The amount of blood loss was not extensive. The 2500 gr female newborn was assigned. The neonatal plaletelet was 284000/mm^3. During the operation she received one unit of fresh whole blood, three units of platelet concentrate. The platelet count was 72.500 mm^3 two hours after the operation. She received 300 mcg intravenous rhesus immune globulin (WinRho SD ®, RA A.S. Ankara) at the first day of the operation. Her blood type was Arh (-), her husband's blood type was BRh(+) and the newborn's blood type was ABRh (+). In the postoperative period 15 units of oxytocin infused in 7 hours in a litre of Isolyte-M water. She was given oral fluocortolone 40 mg (2x20 mg) (Ultralan ® Shering, Istanbul) starting on the first day of the operation. The platelet count was 44.000 mm^3 on sixth postoperative day. The platelet count was 14.400 mm^3 at 24 days after the operation.

Comment

The differantial diagnosis of severe thrombocytopenia during pregnancy includes systemic lupus erythamatosus, HIV, infection, antiphospholipid antibodies and HELLP syndrome (hemolysis, elevated liver enzymes, low platelets). All of these conditions were ruled out in this patient. In patients with a milder thrombocytopenia, the diagnosis of ITP is complicated because its presentation is virtually identical to gestationa thrombocytopenia (13). In our patient severity of her thrombocytopenia was inconsistent with a diagnosis of gestational thrombocytopenia.

Our intention was to perform cordocentesis using PUBS (percutaneous umblical blood sampling) to measure fetal platelet count in pregnant women with ITP, utilizing the information thus derived as an aid in planning for delivery. PUBS in ITP is potentially harmful and must be questioned (14). Because of that we planned cesarean delivery.

This case illustrates the potential usefulness of corticosteroids and high dose intravenous gammaglobulin for the treatment of ITP in pregnancy. The rapid reversal of thrombocytopenia following intravenous gammaglobulin administration suggest that it is useful especially for emergency treatment of ITP in pregnancy. Massive doses of gamma globulin given intravenously over 5 days results in satisfactory platelet count elevation in two thirds of patients. Repeated administrations of high dose intra venous immunoglobulin were effective for a pregnant patient with steroid resistant severe ITP. They resulted in a safe delivery without any adverse effects(15). We applied combined corticosteroids and gammaglobulin in an attempt to impair synthesis of antibodies, modify cellular immune mechanisms and remove preformed antibodies. Glucocorticoids (1) exert their action by suppressing phagocytic activity of the splenic monocyte-macrophage system. This experience illustrates that major surgery can safely be undertaken in thrombocytopenic ITP patients, even as an emergency procedure, using this regimen.

For patients with no response to corticosteroid therapy in 2 to 3 weeks, those in whom massive doses are needed to sustain remission, or those with frequent recurrences, splenectomy is indicated. In about 60 percent, there is substantive improvement as the consequence of decreased removal of platelets by the spleen and reduced antibody production. After splenectomy, platelet count increases rapidly and is often normal within 1-2 weeks. This procedure is usually avoided during pregnancy because of a slightly increased risk of spontaneous abortion and preterm labor and technical difficulty in late gestation. Splenectomy during pregnancy is recommended only for women with platelet counts <10000/mm^3 who are bleeding and who have failed to respond the steroids and intravenous gamma globulin (13). Platelet transfusions can be used to prepare a patient for splenectomy, cesarean delivery, or other surgery. We used platelet transfusions to prevent life threatening haemorrhage during the operation. In women with platelet counts <10000/mm^3 before delivery or with epistaxis or other mucous membrane bleeding platelet transfusion is recommended (16).

Plasma exchange and pulse high dose oral dexamethasone therapy have been described in pregnancy with ITP. The other medications to treat ITP, such as vinca alkaloids, colchicine, azathioprine, cyclophosphamide, and danazol should be avoided during pregnancy due to toxicity and the potential adverse fetal effects.

Severe neonatal, thrombocytopenia occurs in about 10-15% of deliveries from women with immune thrombocytopenic purpura (17). In our case report the neonatal platelet count at delivery was 284000/mm^3. The neonatal course was uncomplicated. Maternal postpartum course was uncomplicated in our patient. Wound infection (18), death from uncontrollable hemorrhage (18), endometritis, hematoma postoperative fever are reported after cesarean section.

REFERENCES

1. Cunningham FG, et al. Williams obstetrics. 21st ed. Chapter 49; Hematological Disorders, 2001: 1324-5.
2. Beck R. Perinatal and neonatal aspects of maternal idiopathic trombocytopenic purpura. Am J Perinatol 1984;1:251-8.
3. Burrows RF, Kelton JG. Thrombocytopenia at delivery: A prospective survery of 6715 deliveries. Am J Obstet Gynecol 1990;162:731-4.
4. Jacobs P, Wood L. Dent DM. Results of treatment in immune thrombocytopenia. Q.J. Med 1986; 58:153
5. Jacobs P, Martell R, Sayers G, Wood L. Gammaglobulin compared to prednisone in adult idiopathic immune thrombocytopenic purpura.Exp Hematol 1985;13:438
6. Carloss HW, McMillan R, Crosby WH. Management of pregnancy in women with immune thrombocytopenic purpura. JAMA 1980;244:2756.
7. Cines DM, Dusak B, Tomaski A, Mennuti M, Schreiber AD. Immune thrombocytopenic purpura and pregnancy. N. Engl J Med 1982; 306:826.
8. Kornstein M, Smith JR, Stockman JA. Idiopathic thrombocytopenic purpura: Mother and neonate. Ann Intern Med 1980; 92:128.
9. Bussel JB, Druzin ML, Cines DB, Samuels PH. Thrombocytopenia in pregnancy. Lancet 1991;337:251.
10. Cook RL, Miller RC, Katz VL, Cefalo RC. Immune thrombocytopenic purpura in pregnancy: A reappraisal of management. Obstet Gynecol 1991;78:579-83.
11. Samuels P, Bussel JB, Braitman LE, et al. Estimation of the risk of thrombocytopenia in the offspring of pregnant women with presumed immune thrombocytopenic purpura. N Engl J Med 1990;323:229-25.
12. Carloss HW, McMillan R, Crosby WH. Management of pregnancy in women with immune thrombocytopenic purpura. JAMA 1980;224:2756-8.
13. Eulino TY.Cesarean section combined with splenectomy in a parturient with immune thrombocytopenic purpura.J Clin Anesth 2001;13(4):313-8.
14. Wegnelius G, Elinder G. Idiopathic thrombocytopenia during pregnancy.The risk in connection with umbilical blood sampling is probably greater than the benefit.Lakartidningen 2001;98(32-33):3403-9.
15. Kimura S, Kurado J, Akaogi T, et al. Treatment of steroid-resistant idiopathic thrombocytopenic purpura in pregnancy with repeated high-dose intravenous immunoglobulin.Haematologia 2001;31(3):263-5.
16. George JN, Woolf SH, Raskob GE. Idiopatic thrombocytopenic purpura: A practice guideline developed by explicit methods for the American Society of Hematology. Blood 1996;88:3-40.
17. Vianelli N, Baravelli S, Milano V, Rizzo N, Catani L, Tura S. Percutaneous umblical blood sampling in the management of immune thrombocytopenic purpura during pregnancy. Hematologica 1998;83(12): 127-28.
18. Noriega-Guerra L, Aviles-Miranda A. Alvarez de la Cedana O, et al. Pregnancy in patients with autoimmune thrombocytopenic purpura. Am J Obstet Gynecol 1979;133:439-48.

Geliş Tarihi: 21.08.2002

Yazışma Adresi: Dr.Tuğba GEZGIN
Pamukkale Üniversitesi Tıp Fakültesi
Kadın Hastalıkları ve Doğum AD, DENİZLİ
tgezgin76@hotmail.com