Successful Pregnancy in a Hemodialysis Patient Treated with Erythropoietin

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Dear Sir,

Pregnancy is rare in women with end stage renal failure in hemodialysis. Only 20-25% of these women who become pregnant arrive to term and generally give birth to premature infants [1]. In recent years, the widespread use of recombinant human erythropoietin (rHuEpo) to treat anemia in renal failure has dramatically improved the symptoms and well-being of hemodialysis patients, but little information is available on the use of rHuEpo during pregnancy. We have had the opportunity to see a 42-year-old woman with end stage renal failure secondary to chronic interstitial nephritis, due to staghorn renal stones, and recurrent infections. She had been on hemodialysis (12 h/ week) for 5 months with normal menstrual cycles before becoming pregnant. To investigate amenorrhea, an ultrasound study was performed, demonstrating pregnancy in the 12th week. At this point her hemodialysis schedule was increased to 3 h 5 times a week with a 1.5 m² AN-69 hollow fiber dialyzer, and simultaneously she started treatment with rHuEpo (5 i.v. doses per week). In the 16th week of pregnancy both hemodialysis sessions and rHuEpo doses were increased to 6/week with the aim of achieving a predialysis serum creatinine lower than 5 mg/dl and blood urea nitrogen lower than 50 mg/dl. Her baseline hematocrit was 20%, and 5 months before becoming pregnant she had required 6 blood transfusions for anemia. The last blood transfusion was given in the 10th week of pregnancy that at that moment had not been diagnosed as yet.

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0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 Weeks

Fig. 1. Relationship between hematocrit (—) and rHuEpo dose (13) in 1 patient from conception (week 0) until delivery at 36 weeks. T = Transfusion of 2 U of packed red blood cells.

did not develop iron deficiency. No further transfusions were required. Pregnancy was uneventful with normal blood pressures. In the 36th week, she gave birth to a healthy 3-kg boy by vaginal delivery. Apgar scores were 6 and 9 at 1 and 5 min, respectively. No complications were observed whatsoever. The boy is now 1 year old, and his health and development are fully normal. His mother is still on dialysis. To our knowledge only 9 hemodialysis patients treated with rHuEpo during pregnancy have been reported [2-6]. In 4 of these cases, there was fetal death (in-

rHuEpo was administered at an initial dose of 40 IU/kg 5 times per week and was increased progressively to a maximum of 60 IU/kg 6 times per week (from the 21st to the 24th week of pregnancy; fig. 1). Subsequently, rHuEpo requirements progressively decreased until the 32nd week, when rHuEpo was discontinued because of hematocrits higher than 35%. During rHuEpo treatment mean hematocrit and blood hemoglobin concentration were 33% and 10.2 g/dl, respectively. With oral iron supplements (210 mg of elemental iron/day) she

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cluding 1 therapeutic abortion for medical reasons) and the remaining 5 newborns were premature and had low birth weights. Ours is the first reported case with normal birth weight. This indicates that intensive hemodialysis combined with frequent, moderate to high dose rHuEpo is a safe and useful therapeutic approach in pregnant women on hemodialysis. We wish to emphasize the need for both, intensive hemodialysis and rHuEpo in this situation since it can resemble more closely the normal physiological environment that occurs during pregnancy.

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