Early Successful Pregnancy in Wilson Cirrhosis

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Summary: *This patient who had an early pregnancy after liver transplantation and delivered a baby on her first anniversary of transplantation is presented for two reasons: First we believe that this is the earliest successful pregnancy and delivery following an orthotopic liver transplantation. Secondly, the baby diplayed all the early complications typical of chronic maternal immunosuppression.*

Key Words: Transplantation, succesful pregnancy, Wilson cirrhosis

Since potent immunosuppressive agents have significantly improved allograft survival, more and more young women with liver transplants are considering pregnancy. There are two points of concern in these patients. The first one is the possible adverse effects of the physical and hormonal changes of pregnancy on the allograft. Recently, there have been several reports on successful pregnancies after orthotopic liver transplantation in the literature (1-4). As far as we know, ours in the fifth case and we believe that it is the earliest successful pregnancy and delivery following an orthotopic liver transplantation, without adverse effects on the mother or her allograft.

The second point of concern in the pregnancy of the transplant patients is thet chronic maternal immunosuppression may have harmful effects on the fetus. In the literature, the fetal abnormalities detected most frequently were premature birth and septic complications (5). The other reason for our reporting this case is that the baby has displayed the early complications typical of chronic maternal immunosuppression.

Case History. S. B, a 17 year old woman, in terminal hepatic failure due to Wilson cirrhosis, received an orthotopic liver transplant on November 5, 1990. On the day of the first anniversary of her transplantation she gave birth to a baby boy.

S.B.'s early postoperative period was uneventful but an acute rejection episode had developed on the seventh postoperative day, November 12, 1991. She was treated with methylprednisone and OKT-3. On the new years eve of 1991, she was discharged from the hospital. Prior to discharge her laboratory tests were as follows: AST, 30 IU/L; ALT, 12 IU/L; alkaline phosphatase, 80 IU/L; total bilirubin, 0.9 mg/dl; and albumin, 3.6 g/dl (Fig. 1-A, B). The immunosuppressive regimen at discharge consisted of cyclosporine (CsA) 250 orally b.i.d and prednisone 10 mg b.i.d. She was also on acyclovir 200mg q.i.d. and ranitidine 150 mg b.i.d. (Fig. 1-C). At three months post-transplant, she was on CsA 200 mg b.i.d. (serum CsA levels were 135 ng/ml) and prednisone 5 mg t.i.d. Her liver functions were

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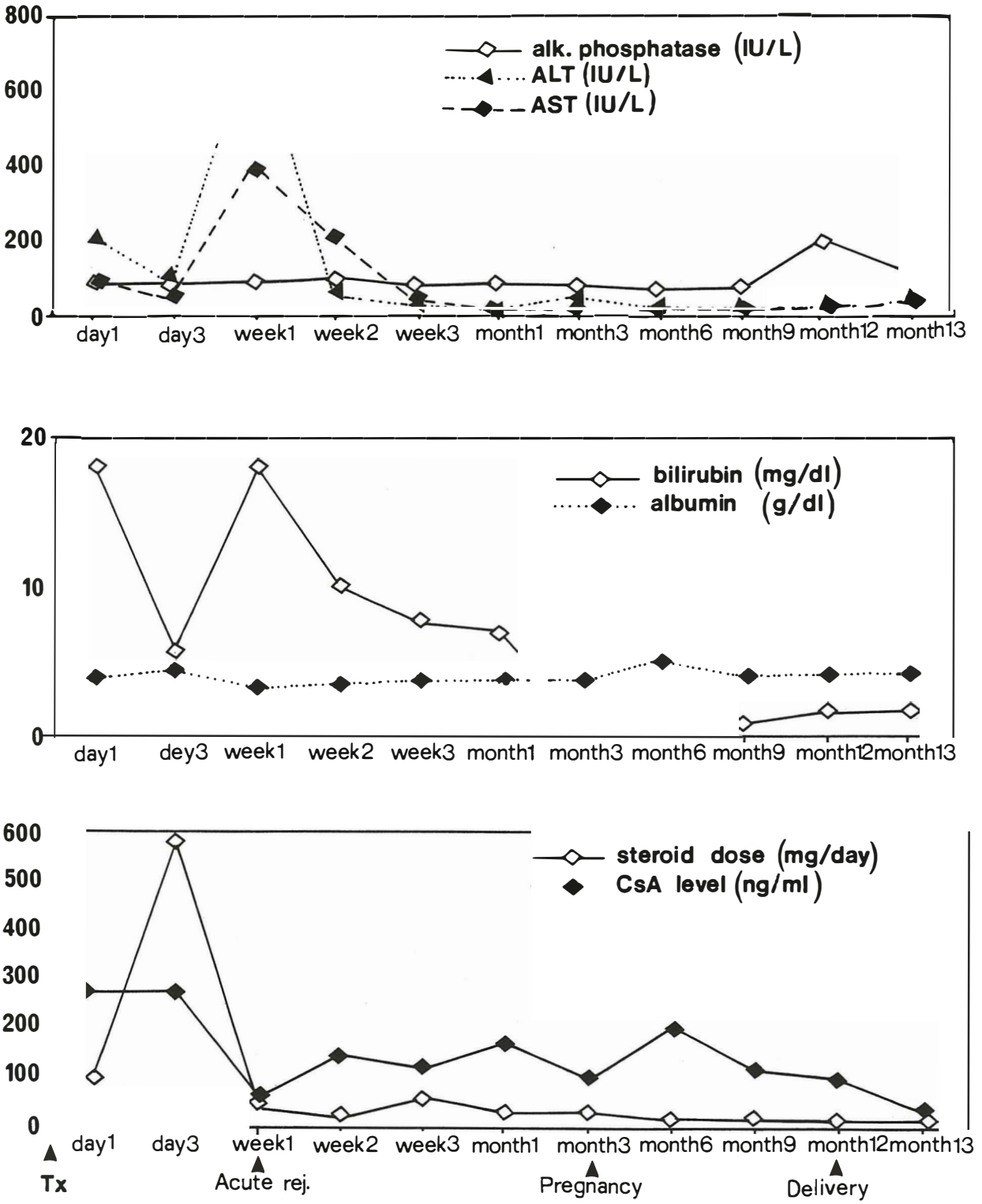
800
600
400
200
0
alk. phosphatase (IU/L)
ALT (IU/L)
AST (IU/L)
day1 day3 week1 week2 week3 month1 month3 month6 month9 month12 month13
20
10
0
bilirubin (mg/dl)
albumin (g/dl)
day1 dey3 week1 week2 week3 month1 month3 month6 month9 month12 month13
600
500
400
300
200
100
0
steroid dose (mg/day)
CsA level (ng/ml)
day1 day3 week1 week2 week3 month1 month3 month6 month9 month12 month13
Tx
Acute rej.
Pregnancy
Delivery
Post-transplant time

normal. At this time she became pregnant. Her pregnany was followed with serial ultrasounds on outpatient basis.

At 36 weeks of pregnancy, she went into labor and was admitted to the maternal service. The fetus had intrauterine growth retardation and according to the ultrasound evaluation its size was that of a 28 weeks old fetus. 8 hours after her admission, she delivered a live baby by (weight 1280 g) who was initially bradicardic and in respiratory distress. After tracheal intubation and administration of positive pressure O2, APGAR scores became 6 and 8 at 5 and 10 minutes, respectively. The baby's weight, height, and head circumference were below the third percentile.

At the time of delivery the mother was on CsA 200 mg b.i.d., prednisone 5 mg t.i.d., and ranitidine 150mg b.i.d. Her serum CsA levels were 206 ng/ml. Laboratory tests were as follows: AST, 30 UI/L; ALT, 18 UI/L, total bilirubin, 0.9 mg/dl; and albumin 4 g/dl.

The baby was extubated after 24 hours. For three days he seemed to be doing well but then developed gastroenteritis and signs of sepsis in the following days. At 16th day, the baby developed DIC and was lost due to profuse bleeding from the lungs.

The literature contains five published reports of successful pregnancies after orthotopic liver transplantation (1-4). Ours is the sixth and the earliest post-transplant pregnancy. Although the pregnancy was uneventful as far as the mother was concerned, the baby had serious intrauterine growth retardation and succumbed to immediate septic complications arising from chronic exposure to maternal immunosuppression.

In the literature, a number of studies have recently addressed the question of pregnancy in immunosuppressed patients (5,6). Venkataramanan et al. have shown that maternal and fetal blood CsA levels were similar in pregnant women taking CsA (7). According to Classen et al. (8) CsA crosses the placenta and acts directly on the developing immune system of the fetus. Although CsA is not considered mutagenic to cause congenital abnormalities, the short and long-term effects on tha developing immune system may seriously threaten the newborn as was the case in ours. These effects of immunosuppressants in the child must be taken into account when pregnancy is being considered in transplant patients.

REFERENCES

1. Walcott WO, Derick DE, Jolley JJ, Snyder DL, Schmid R: Successful pregnancy in a liver transplant patient. Am J Obstet Gynecol 1978; 132: 340.

2. Myers RL, Schmid R, Newton JJ: Childbirth after liver transplantation. Transplantation 1980; 29: 432.

3. Newton ER, Tovksoy N, Kaplan M, Reinhold R: Pregnancy and liver transplantation. Obstet Gynecol 1988; 71: 499.

4. Haagsma EB, Visser GH, Klompmaker IJ, Verwer R, Sloof MJ: Successful pregnancy after orthotopic liver transplantation. Obstet Gynecol 1989; 74: 442.

5. Cockburn I, Krupp P, Monka C: Present experience of Sandimmun in pregnancy. Transplant Proc 1989; 21: 3730.

6. Pickrell MD, Sawers R, Michael J: Pregnancy after renal transplantation: severe intrauterine growth retardation during treatment with cyclosporine A. Br Med J 1988; 296: 825.

7. Venkataramanan R, Konero B, Wang P, Burckart G, Caritis S, Starzl T: Cyclosporine and its metabolites in mother and baby. Transplantation 1988; 46: 468.