







Postpartum Plasmapheresis Treatment in a Severe Liver Enzyme Disorder

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We read the article by Koyuncu et al. with interest and since we have had experience on the subject because of a long time follow up of a similar case, we wanted to present our opinion, also to contribute and underline some different points about Postpartum Plasmapheresis Treatment in HELLP syndrome.¹

A 28-year-old G1P1 was admitted to our clinic at 36 weeks of gestation. The blood pressure (BP) value was 141/90 mmHg, her platelet counts were 72*10³/mikroL, in the biochemical examination; AST: 273 U/L, ALT: 286 U/L, GGT: 74 U/L, LDH: 551 U/L, CK: 194 U/L, d-dimer: 3.34 mg/L and protein was 2 positive in spot urine, preeclampsia was diagnosed an emergency caesarean section was done (Table 1). Magnesium infusion and anti-hypertensive treatment were started. Plasmapheresis treatment was planned after the surgery due to 10-12 schistocytes were observed in all areas in the peripheral blood smear. 17 units of fresh frozen plasma (FFP) were used during plasmapheresis. During the follow-up period in the intensive care unit, platelet values started to increase from day 3, and AST, ALT, LDH, total bilirubin, urea and creatinine values started to return to normal on the 3rd day (Table 1). On the 5th day after the plasmapheresis treatment, patients all vital signs and laboratory values returned to normal and she was discharged.

Plasmapheresis treatment is an alternative treatment that can be used in HELLP syndrome. It is based on removal of antibodies, immune complexes and some toxins from plasma. Although the mechanism of action of plasmapheresis in HELLP syndrome is not fully known, it is stated that in patients with resistant HELLP syndrome and with organ failure, it increases platelet count and improves renal function.² Plasma exchange is estimated to eliminate aggregate and procoagulant factors discharged from endothelial cells and active platelets.² There are no definitive statements about the indications, time and frequency of plasmapheresis in the literature. When limited number of studies are examined, postpartum 24-

TABLE 1: Laboratory results.

	First Application	(6 th hour)	After Treatment			5 th day (Before Discharge)
			1 st day	2 nd day	4 th day	
Hb (g/dl)	11.5	10.4	9.1	9.4	10.4	12.3
Platelet count (10.e3/mikroL)	85	87	109	116	137	256
AST (IU)	273	169	115	35	37	42
ALT (IU)	286	206	163	45	36	54
Urea (mg/dL)	32	31	28	25	31	34
Creatinin (mg/dL)	0.88	0.88	0.84	0.86	0.82	0.86
PTZ (second)	10.7	11.3	-	12	-	-
aPTT (second)	33.4	35.4	-	31	-	-
d-dimer (mg/L)	3.34	-	-	-	3.53	3.53
Fibrinogen (mg/L)	326	-	-	-	277	134

72 hours, it has been suggested to patients with platelet values below $100 \times 10^3/\text{microL}$. However it is not clear when it should be terminated, it is stated in a study that when platelets start to rise and the platelet count is $100 \times 10^3/\text{microL}$ it can be terminated.² We performed plasmapheresis at postpartum 12th hour. We did not need to recur because the platelet values increased above $100 \times 10^3/\text{microL}$ at 30th hour of plasmapheresis.

The pathophysiology and treatment of preeclampsia and HELLP syndrome are highly controversial for obstetricians.³ Plasmapheresis, which is an alternative treatment modality in HELLP syndrome, needs multidisciplinary approach such as; anesthesiologist, obstetrician, hematologist, blood banking and many equipment requiring, therefore is a difficult process. However, it is an alternative and life-saving treatment modality for the treatment of HELLP syndrome if it is administered with the right timing in right selected cases.

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Conflict of Interest

No conflicts of interest between the authors and/or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Mehmet Ferdi Kinci, Özge Şehirli Kinci; **Design:** İlknur Yeşilçınar, Ramazan Erda Pay; **Control/Supervision:** Bora Çoşkun, Kazım Emre Kardeşahin; **Data Collection and/or Processing:** Mehmet Ferdi Kinci, İlknur Yeşilçınar; **Analysis and/or Interpretation:** Özge Şehirli Kinci, Ramazan Erda Pay; **Literature Review:** Bora Çoşkun, Kazım Emre Kardeşahin; **Writing the Article:** Mehmet Ferdi Kinci, Ramazan Erda Pay; **Critical Review:** İlknur Yeşilçınar, Kazım Emre Kardeşahin; **References and Fundings:** Özge Şehirli Kinci, Bora Çoşkun; **Materials:** Mehmet Ferdi Kinci.

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