

**Original article****Efficacy of Postpartum Furosemide Therapy on Blood Pressure Recovery in Patients with Severe Preeclampsia: A Randomized Clinical Trial**Talat Dabaghi<sup>1</sup>, Mona Shariati<sup>2</sup>, Fatemeh Luluha<sup>3</sup>, Farideh Movahhed<sup>4</sup>, Ameneh Barikani<sup>5</sup>**Abstract**

**Background:** Hypertensive disorders are an important cause of maternal mortality and morbidity, and severe preeclampsia is the most common cause [Baha M. Sibia, AJOG (2012)]. The blood pressure rises progressively during the first 5 days after delivery, and it is due to mobilization of 6-8 liters of liquid, and 950 meq of accumulated sodium, from interstitial and extravascular space to intravascular space [Davison JM and Dunlop W, Seminars in Nephrology, 4:198–207 (1984)]. Severe rising of blood pressure may lead to complications, such as renal failure, pulmonary edema, eclampsia, intracranial hemorrhage, stroke, coma and death [Baha M. Sibia, AJOG (2012)]. Therefore, postpartum anti-hypertensive therapy can prevent these complications and diminishes maternal mortality and morbidity rate. **Objective:** This investigation was done to evaluate whether a short course of postpartum furosemide therapy in patients with severe preeclampsia accelerates blood pressure recovery, reduces antihypertensive drugs usage, prevents complications such as eclampsia and finally diminishes hospitalization. **Study design:** In a randomized clinical trial, 90 patients with severe preeclampsia participated. After spontaneous onset of diuresis and discontinuation of sulfate magnesium, patients were randomly allocated to receive either no therapy or 20 mg oral furosemide daily for five days with oral potassium supplementation. Postpartum blood pressure, the need for antihypertensive therapy, rate of complications and duration of hospitalization between treatment and control groups were compared. **Results:** Mean systolic blood pressure on the third day after delivery was not different significantly between treatment and control groups (127.9±10.2 compared with 130 ± 11.5 mm-Hg, P=0.36). Mean diastolic blood pressure on the third day after delivery was not different between two groups. Patients in treatment group required less antihypertensive therapy during hospitalization (26.7% compared with 33.3%, P=0.64) but the difference was not significant. Eclampsia occurred in two patients in control group and not occurred in treatment group. Duration of hospitalization was not affected by the intervention. **Conclusion:** Brief postpartum furosemide therapy in patients with severe preeclampsia may not be effective in postpartum blood pressure recovery and reducing the need for antihypertensive therapy. It may be useful to prevent complications such as eclampsia. Duration of hospitalization was not affected by the intervention.

**Keywords:** Severe preeclampsia; Furosemide; Postpartum hypertension.

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**Introduction**

Hypertensive disorders appear in 10% of all pregnancies<sup>1</sup>. Hypertension is a member of lethal triad in pregnancy along with bleeding and infection that has a significant role in maternal morbidity and mortality. 50% of maternal mortality due to hypertension is preventable<sup>2</sup> and 10% of it occurred after delivery<sup>3</sup>. Among hypertensive disorders in

pregnancy, preeclampsia is the most life-threatening condition<sup>4,5</sup> that can lead to placenta abruption, convulsion, acute pulmonary edema, acute renal injury and death<sup>6</sup>. It may be followed by increased risk of cardiovascular complications in next years after delivery<sup>7,8</sup>.

During pregnancy, 6 to 8 liters of water retained in extravascular space, and 950 mEq sodium

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