

PROTOCOL #14 - Maternal Fetal Medicine, University of New Mexico

**POSTPARTUM HYPERTENSIVE URGENCIES AND EMERGENCIES**  
**Revised 7/9/03**

A. General

Acute severe hypertension (diastolic BP  $\geq 110$ ) in the postpartum period is not an uncommon event in our preeclamptic population. Treatment may differ from that used in the patient who is still pregnant. (Asterisks below mark those agents which have been used effectively in pregnancy)

Once you have determined that treatment is indicated, the decision as to how fast BP must be lowered depends not on the degree of BP elevation but the presence or absence of end-organ compromise (cardiac, renal, hematologic, or neurologic, including eclampsia.) If signs of end-organ damage are present, BP must be lowered within 1-2 hours and therefore will usually require a parenteral agent. If there are no such signs, the goal is to lower BP within 24 hrs, so oral agents are feasible. The mean arterial pressure should not be lowered more than 20-25%, as cerebral autoregulation fails at this level.

The equation for MAP is as follows:  $\frac{(\text{diastolic BP} \times 2) + \text{systolic BP}}{3}$

B. Treatment options: parenteral

\*Labetolol      Begin with 10 mg IV push  
                    If no response after 5 min: 20 mg  
                    If no response after another 5 min: 40 mg  
                    If no response after another 5 min: 80 mg

The effective dose will need to be repeated in 3-6 hrs. Maximum daily dose is 300 mg.

\*Nitroglycerin

Vasodilator, predominantly venous; rapid onset/offset, so arterial BP monitoring is appropriate. Fluid load first. Need to use glass bottle, nonabsorbable tubing, for continuous infusion. The starting dose is 5-10 mcg/min (note NOT dependent on weight) and is increased q5 min by 5-10 mcg/min to maximum of 150 mcg/min

\*Nitroprusside (see protocol 14B)

Fenoldopam (no information on use in pregnancy—reserve for postpartum)  
Specific dopaminergic agonist which decreases SVR as well as renal/splanchnic arteriolar resistance; enhances sodium & water excretion)  
Continuous infusion at 0.1 to 0.6 mcg/kg/min, onset 15 min, duration 1-4 hr.

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Enalaprilat (as this is an ACE inhibitor, its use should also be deferred to postpartum)  
1.25 to 2.5 mg IV bolus over 5 min; can repeat q15 min to maximum 5 mg; will need repeat dosing in approx 6 hr

Nicardipine (a calcium channel blocker available in parenteral formulation)  
Given by IV infusion at 5 mg/hr (NOT weight-based), onset 1-5 min; increase rate by 1-2.5 mg/hr every 10-15 min, max dose 15 mg/hr. Tachycardia is common.

Treatment options (oral)

\*Nifedipine (calcium channel blocker)  
10-20 mg PO. Please note: unpredictable in effect. Lasts 3-5 hr. Expect reflex tachycardia.

\*Clonidine  
0.2 mg PO to start. Onset 30 min to 2 hr. May give 0.1 mg per hr to maximum 0.8 mg. Lasts 6-8 hr. Sedation is common.

1. For treatment with a parenteral regimen, in case of hypertensive emergency, the patient should be at bed rest. Use of a potent, rapid-acting agent requires an arterial line for minute-to-minute BP monitoring.
2. Patients should be switched to an appropriate oral antihypertensive as soon as feasible and for as long as they may require therapy. This may take days or weeks. Once discharged, arrangements should be made for BP evaluation at least twice a week, and the postpartum visit should be accelerated (2-4 weeks instead of 6.) BP may be monitored via home health services, by the patient herself if she has access to the equipment and adequate knowledge of how to use it, or in clinic.
3. MgSO<sub>4</sub> therapy should be continued for 24-48 hours post delivery and until there is evidence of amelioration of the disease.

**CONSULTATION:** Twenty-four hour consultation is available by calling the Maternal Fetal Medicine service at the University of New Mexico Hospital 1-888-866-7257.

References

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