

Guidelines for the Treatment of Severe Hypertension in Pregnancy with Hydralazine (Apresoline)

Introduction: in some patients with severe pre-eclampsia or superimposed pre-eclampsia, there will exist a need to control the blood pressure with drug therapy prior to delivery. This is usually indicated when the systolic BP exceeds 160 mmHg and / or the diastolic BP exceeds 110 mmHg.

Goal of treatment: to maintain the systolic BP between 140 and 160 mmHg and the diastolic BP between 90 and 110 mmHg. Patients with severe hypertension when treated aggressively may respond with decreased uterine perfusion, which in turn may precipitate the deterioration of the fetal status.

Pharmacological action and side effects: Hydralazine is an arteriolar dilator, which acts directly on vascular smooth muscle. It does not block reflex sympathetic activity and therefore, some of the side effects may reflect this.

The patient may experience the following side effects:

- ✓ Nausea
- ✓ Vomiting
- ✓ Headache
- ✓ Tachycardia
- ✓ Diarrhea
- ✓ G.I. disturbances
- ✓ Dizziness
- ✓ Peripheral neuropathies
- ✓ Myocardial ischemia (extremely rare in young women)
- ✓ Fetal bradycardia/late decelerations when aggressive anti-hypertensive treatment leads to maternal hypotension.

Contraindications:

- Acute myocardial conditions
- Aortic dissection (extremely unlikely in pregnant women)
- Compromised renal function (relative contraindication)
- Hypersensitivity
- Rheumatic mitral valve disease

Method of administration:

- 1) Add 100 mg of Hydralazine in 500 ml of 0.5% NS (concentration=200 µg/ml).
- 2) Set up an infusion pump and piggyback Hydralazine solution into the main IV line.
- 3) Start the infusion at 200 µg/min (set the pump to an infusion rate of 60 cc/hour).
- 4) Assess BP and pulse rate prior to the infusion and every 5 minutes thereafter.
- 5) If necessary, and only by order of a physician, increase infusion rate by 50 µg/min (15 cc/hour) in intervals of 15 to 20 minutes until the desired BP level is reached (usually 150/90 mmHg).
- 6) When the goal is achieved, the dosage required is the patient's usual loading dose and it should be maintained for a total of 60 minutes.

- 7) When loading dose is finished, use a maintenance dose of 50-150 µg/min (15-45 cc / hour).
- 8) If BP remains stable then you may check it every 30 minutes.

Points of special concern:

- ❖ Reduce the BP slowly
- ❖ Maintain a diastolic BP > 90 mmHg and <110 mmHg.
- ❖ Maintain continuous electronic fetal monitoring.
- ❖ In the event of a precipitous drop of the BP, administer Ephedrine if a non-reassuring fetal tracing is noted.

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