

South Australian Perinatal Practice Guidelines

Hydralazine infusion regimen

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Introduction

- > Hydralazine is a direct peripheral arteriolar vasodilator with a slow onset of action (10-20 minutes) and peaks approximately 20 minutes after administration (SOMANZ 2008)
- > Initially treatment is commenced as intermittent boluses. Subsequently, bolus administration may be followed by an infusion
- > Hydralazine is known to cross the placenta following IV administration and has been associated with fetal distress and fetal cardiac arrhythmia in the last trimester
- > Continuous electronic fetal monitoring is required

Presentation

- > Hydralazine (Apresoline®)
- > In powdered form in 1 mL ampoules containing 20 mg
- > Dilute with sodium chloride 0.9 %

Indication

- > Intravenous hydralazine is used for the acute control of blood pressure in preeclampsia and eclampsia

Contraindications

- > Known hypersensitivity to hydralazine or dihydralazine
- > Idiopathic systemic lupus erythematosus (SLE)
- > Severe tachycardia and heart failure with a high cardiac output (e.g. thyrotoxicosis)
- > Myocardial insufficiency due to mechanical obstruction (e.g. aortic or mitral stenosis or constrictive pericarditis)
- > Isolated right ventricular heart failure due to pulmonary hypertension (cor pulmonale)
- > Dissecting aortic aneurysm

Precautions

- > Avoid use before the third trimester due to possible teratogenic effects

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Intermittent bolus administration

- > When administering hydralazine, intravenous treatment with crystalloid solution is required (for further information, refer to the PPG 'fluid management and monitoring in severe pre-eclampsia')
- > May be administered by a midwife under the supervision of a medical officer
 - > Dilute hydralazine 1 mL (20 mg) up to 20 mL with sodium chloride 0.9 %. Label: hydralazine 1 mg per mL
 - > The initial dose is 5-10 mg as ordered given by slow intravenous injection over 2 minutes
 - > Blood pressure is taken at 5 minute intervals for at least 20 minutes following each bolus
 - > After 15 minutes, depending upon response, a second dose of 5 mg may be given. Note that the maximal effect occurs 15-20 minutes after each bolus
 - > Consider infusion if the total bolus dosage is 20 mg or more

Hydralazine infusion

- > Mix 2 ampoules (40 mg) of hydralazine up to a volume of 40 mL with sodium chloride 0.9 % (to obtain 1 mg per mL in a 50 mL syringe)
- > Administer via syringe pump
- > May be piggybacked into the main line
- > Commence infusion at the rate of 2 to 10 mg per hour depending on blood pressure
- > Monitor blood pressure and pulse every 15 - 30 minutes as required
- > Blood pressure should not be lowered below 140 / 85 mm Hg

Side effects

- > Facial flushing and headache
- > Tachycardia (if pulse rate exceeds 120 beats per minute and the blood pressure is still high, alternative antihypertensives should be considered)
- > Nausea, vomiting, dizziness, anxiety and tremor

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References

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2. World Health Organisation (WHO). Managing complications in pregnancy and childbirth. A guide for midwives and doctors, Geneva; 2000. WHO/RHR/00.7
3. Australian Prescription Products Guide (APPG). [Online version] 32nd edition incorporating the Non Prescription Products Guide; 2003.
4. MIMSONline. Apresoline. CMPmedica; Sydney. Australia; 2011.
5. Magee LA, Cham C, Waterman EJ, Ohlsson A, von Dadelszen P. Hydralazine for treatment of severe hypertension in pregnancy: meta-analysis. BMJ 2003; 327:955-60.

Abbreviations

APPG	Australian Prescription Products Guide
IV	Intravenous
mg	Milligram(s)
mL	Millilitre(s)
mm Hg	Millimetres of mercury
®	Registered trademark
SLE	Systemic lupus erythematosus
SOMANZ	Society of Obstetric Medicine of Australia and New Zealand
WHO	World Health Organisation

Version control and change history

PDS reference: OCE use only

Version	Date from	Date to	Amendment
1.0	08 Dec 04	21 Oct 08	Original version
2.0	21 Oct 08	22 Nov 11	Review
3.0	22 Nov 11	current	