LABETALOL – INTRAVENOUS LABETALOL FOR MANAGEMENT OF SEVERE / URGENT HYPERTENSION

Action:
Labetalol is an adrenergic receptor blocking agent that possesses blocking activities for both nonselective, competitive beta-adrenergic receptors and selective, competitive alpha(1)-adrenergic receptors in a single substance. It causes a dose related fall in blood pressure without reflex tachycardia and without significant reduction in heart rate.

Intravenous half-life is 5.5 hrs.

Use:
For the urgent treatment of severe hypertension:

Obstetric: Pregnancy or post-partum for severe hypertension ≥170 mmHg systolic or ≥110mmHg diastolic.
Non-obstetric: hypertension associated with end-organ derangement i.e. cardiac or cerebrovascular dysfunction, malignant hypertension, patients unable to tolerate oral therapy.

Aim to lower BP by 10-20mmHg over 20-40 minutes

Presentation:
100mg/20mL vial (i.e. 5mg/mL)

Intravenous labetalol is not registered in Australia therefore use requires completion of a Special Access Scheme Form (to be returned to Pharmacy) and patient consent.

Dosage and Administration:
IV bolus dose to be administered **by medical staff only**. NOT FOR IM ADMINSITRATION. Give fluid preload of 250mL sodium chloride 0.9% IV immediately prior to use.

Monitor the fetal heart rate by continuous CTG.

Co-administration of oral antihypertensive therapy is recommended.

Do not mix labetalol with 5% sodium bicarbonate or any other drugs.

Commence treatment with IV bolus.
Administer labetalol 20mg as a slow IV bolus over 2 minutes. .

Record HR and BP every 5 minutes until stable ≤ 155/95mmHg for 15 minutes.

Repeat intravenous labetalol bolus of 20mg every 10 minutes as necessary to a maximum of 4 doses

The maximal effect usually occurs within 5 minutes of each injection.

Once BP has stabilised monitor BP hourly for 4 hours then return to usual pre-eclampsia regimen.

Continuous IV infusion:
If BP is not adequately controlled after 4 bolus doses, a continuous IV infusion may be required.

Women requiring a continuous IV infusion should be cared for in Acute Care or Birthing Services..

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Administration of continuous IV infusion:

Dilute 100mg of labetalol in 30mL of sodium chloride 0.9% and delivery through a syringe driver.

Infuse via a dedicated peripheral or central lumen. Do not attach to a two way infusion as an inadvertent bolus may be delivered**.** Commence infusion at 10 mL/hour (20mg/hour). Titrate to target BP by doubling or halving the infusion every 30 minutes.

Record BP and HR every 15 minutes until blood pressure stabilizes then record hourly.

If BP decreases precipitously, halve the infusion rate or cease depending on severity.

Discontinue by weaning over 1-2 hours when BP consistently <155/95 mmHg.

Compatible fluids: Glucose 5%, glucose in sodium chloride solutions, Hartmann's, Ringer's, sodium chloride 0.9%

Adverse Effects:

- Bradycardia: cease if HR <60.
- Hypotension: cease if BP<130 systolic
- Fetal bradycardia

Contraindications/precautions:
Bronchial asthma or chronic obstructive pulmonary disease, cardiogenic shock, conditions associated with severe and prolonged hypotension, postural hypotension, hypersensitivity to labetalol, overt cardiac failure, second and third degree AV block, severe sinus bradycardia

Related Policies:
Management of severe hypertension

References:

1. MIMS online 2014. Accessed 23/12/14
2. Australian Injectable Drug Handbook 6th Edition, Society of Hospital Pharmacists of Australia 2014

Risk rating- low. Review in 2020

National Standard: Medication Safety

REVISION & APPROVAL HISTORY
Reviewed and endorsed Therapeutic & Drug Utilisation Committee 12/7/18
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Reviewed and endorsed Therapeutic & Drug Utilisation Committee 19/2/15
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Approved Patient Care Committee 6/11/08

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