Hypertension in pregnancy: severe hypertension, severe pre-eclampsia and eclampsia in critical care

Criteria for choice of critical care level

Level 1
- Pre-eclampsia with mild or moderate hypertension
- Ongoing conservative antenatal management of severe preterm hypertension
- Step-down treatment after the birth

Level 2
- Step-down from level 3 or severe pre-eclampsia with any of following additional features:
  - eclampsia
  - HELLP syndrome
  - haemorrhage
  - hyperkalaemia
  - severe oliguria
  - coagulation support
  - intravenous anti-hypertensive treatment
  - initial stabilisation of severe hypertension
  - evidence of cardiac failure
  - abnormal neurology

Level 3
- Severe pre-eclampsia and needing ventilation

See Pathway for Severe hypertension, severe pre-eclampsia and eclampsia in critical care

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Medical management

• Measure BP hourly in women with hypertension, and every 15–30 minutes until BP <160/110 mmHg in women with severe hypertension
• Treat women admitted to critical care during pregnancy or after birth immediately with one of:
  – labetolol (oral or intravenous)
  – oral nifedipine
  – intravenous hydralazine
• Continue appropriate ongoing antihypertensive treatment after initial management
• Monitor response to treatment to:
  – ensure BP falls
  – identify adverse effects for woman and fetus
  – modify treatment according to response
• If BP controlled within target ranges, do not routinely limit duration of second stage of labour
• If BP does not respond to initial treatment, consider operative or assisted birth

Fluid balance and volume expansion

In women with severe pre-eclampsia:

• Limit maintenance fluids to 80 ml/hour unless there are other ongoing fluid losses (for example, haemorrhage)
• Do not preload with intravenous fluids before establishing low-dose epidural analgesia and combined spinal epidural analgesia
• Do not use volume expansion unless hydralazine is antenatal antihypertensive; consider using ≤500 ml crystalloid fluid before or at same time as first dose of hydralazine in antenatal period

Magnesium sulfate

• Give intravenous magnesium sulfate if woman with severe hypertension or severe pre-eclampsia has or recently had an eclamptic fit
• Consider giving intravenous magnesium sulfate if birth planned within 24 hours in woman with severe pre-eclampsia
• Do not use diazepam, phenytoin or other anticonvulsants as alternatives to magnesium sulfate in women with eclampsia

Regimen for magnesium sulfate

• Loading dose of 4 g given intravenously over 5 to 15 minutes, followed by infusion of 1 g/hour for 24 hours
• Further dose of 2–4 g given over 5 to 15 minutes if recurrent seizures

1At the time of publication (June 2019), some brands of nifedipine were specifically contraindicated during pregnancy by the manufacturer in its summary of product characteristics. Refer to the individual summaries of product characteristics for each preparation of nifedipine for further details.


3The MHRA has issued a warning about the risk of skeletal adverse effects in the neonate following prolonged or repeated use of magnesium sulfate in pregnancy. Maternal administration of magnesium sulfate for longer than 5–7 days in pregnancy has been associated with skeletal adverse effects and hypocalcaemia and hypermagnesemia in neonates. If use of magnesium sulfate in pregnancy is prolonged or repeated, consider monitoring of neonates for abnormal calcium and magnesium levels and skeletal adverse effects.