2-2 Severe Pre-eclampsia v.1

New/worsening hypertension with:

- Proteinuria – urinary protein: creatinine ratio > 30 mg/mmol
- Placental growth factor (PLGF) testing outside normal range
- Abnormal/deteriorating haematological/biochemical indices

Symptoms consistent with end organ disease (headache, blurred vision, ≥3 beats clonus, dyspnoea, hypoxia, pulmonary oedema, epigastric pain, vomiting)

START

❶ **Call for help** (obstetrician, midwife, anaesthetist)

❷ **Check clinical status using ABCDE approach**

- Start continuous monitoring: SpO_2, respiratory rate, 3-lead ECG and blood pressure +/- CTG
- If $SpO_2 \leq 95\%$ ➔ start oxygen (titrate to saturations >95%) *-and-* assess for pulmonary oedema
- Insert IV access, take bloods for FBC, U&E, LFTs, clotting, fibrinogen, G&S

❸ **Check for *-and-* manage hypertension aim for BP <130/85 mmHg (Box A)**

Check response 15 minutes after each drug intervention

- Check response to treatment after 45 minutes, if systolic BP is not < 160 mmHg ➔ give another agent
- If continuous IV infusion of antihypertensives started ➔ insert arterial line

❹ **Check neurology** – AVPU, reflexes, clonus

❺ **If severity of pre-eclampsia requires protocolised management ➔**

- Start magnesium sulfate to prevent seizures (**Box B**)
- Start fluid restriction of 80 ml/hr
- Insert urinary catheter with urometer bag *-and-* record input / output hourly
- Plan nil by mouth start time

❻ **Check fetal condition** – ultrasound scan and CTG (as appropriate)

If birth anticipated in next 48 hrs and gestation < 35 weeks ➔ give steroids for fetus

❼ **Avoid agents that induce hypertension** (e.g., ergometrine and syntometrine)

❽ **Care for woman in appropriate location, with appropriately trained staff**

Box A: Treatment of severe hypertension

PO Labetalol (AVOID in women with asthma)

- 200 mg orally. Can repeat after 15–30 minutes
- Maintain with 200 mg orally TDS if good response

PO Nifedipine (if asthmatic, or labetalol is ineffective)

- 10 mg modified release orally
- Maintain with 10 mg BD if good response

IV Labetalol (5 mg/ml) (AVOID in women with asthma)

- Loading dose: 50 mg (10 mL) over 2 minutes. Can repeat every 5 minutes to a maximum of 4 doses (200 mg) if needed
- Maintenance: Start at 4 ml/hr; double rate every 30 minutes until BP controlled (max rate 32 ml/hr)

IV Hydralazine (1 mg/ml) (if nifedipine or IV labetalol ineffective)

- Loading dose: 5 mg (5 ml) over 15 min. Can repeat after 20 min
- Maintenance: start at 5 ml/hr, titrate to BP (max rate 18 ml/hr)

Box B: Magnesium sulfate for seizure prevention

Loading dose:

- 4 g magnesium sulfate IV over 5 minutes (8 mL (4 g) 50% $MgSO_4$ diluted to 20 mL with 0.9% saline)

Maintenance infusion:

- 1 g/hr magnesium sulfate IV infusion (20 mL (10 g) 50% MgSO4 diluted to 50 mL with 0.9% saline, infused at 5 ml/hr)
- If AKI with creatinine >90µmol/L start at 0.5 g/hr and recheck Mg levels in 4 hours

If seizure occurs:

- 2 g magnesium sulfate over 5 minutes (4 ml (2 g) 50% $MgSO_4$ diluted to 10 ml with 0.9% saline)

Magnesium and nifedipine in combination can cause rapid fall in BP

Box C: Critical changes

Eclampsia ➔ **2-1**