Hypertensive disorders of pregnancy

Clinical Guideline Presentation v2.0

45 minutes

Towards CPD Hours

References:

The Queensland Clinical Guideline Hypertensive disorders of pregnancy is the primary reference for this package.

Recommended citation:

Queensland Clinical Guidelines. *Hypertensive disorders of pregnancy* clinical guideline education presentation E15.13-1-V2-R20 Queensland Health. 2015.

Disclaimer:

This presentation is an implementation tool and should be used in conjunction with the published guideline. This information does not supersede or replace the guideline. Consult the guideline for further information and references.

Feedback and contact details:

M: GPO Box 48 Brisbane QLD 4001 | **E:** guidelines@health.qld.gov.au | **URL:** www.health.qld.gov.au/qcg

Funding:

Queensland Clinical Guidelines is supported by the Queensland Health, Healthcare Improvement Unit.

Copyright:

Learning outcomes

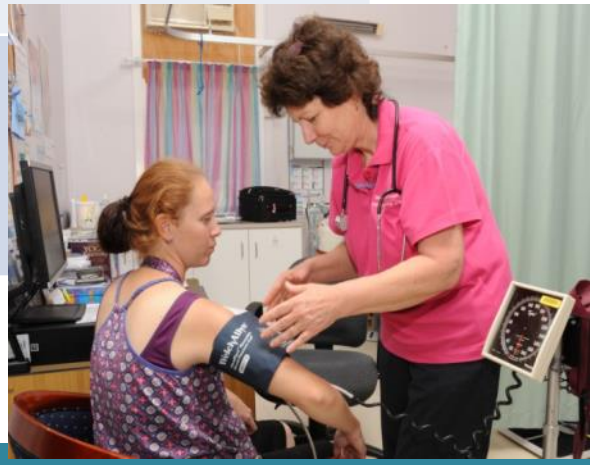
Objectives

The participant will be able to outline, in relation to hypertensive disorders of pregnancy (HDP):

- Definitions and classification
- Risk factors for and diagnosis of preeclampsia
- Initial screening and testing recommendations
- Treatment of moderate and severe hypertension
- Indications for the use of Magnesium Sulfate
- Management of eclampsia
- Antenatal surveillance of mother and baby
- Intrapartum and postpartum management
- Discharge and follow-up advice

Hypertension definitions

Term	Definition
Hypertension	sBP ≥ 140 and/or dBP ≥ 90 mmHg
Moderate Hypertension	sBP ≥ 141–159 and/or dBP ≥ 91–109 mmHg
Severe Hypertension	sBP ≥ 160 and/or dBP ≥ 110 mmHg



Hypertension classifications

Classification	Definition
Gestational	New onset after 20 weeks without features of preeclampsia
Preeclampsia	Hypertension and involvement of one or more other organ systems and/or the fetus
Chronic hypertension in pregnancy *(essential and secondary)*	Hypertension confirmed pre-conception or prior to 20 weeks
Preeclampsia superimposed on chronic	Preexisting hypertension with systemic features of preeclampsia after 20 weeks gestation

Diagnosis of preeclampsia

- Raised BP is common but not always first manifestation
- Proteinuria is common but not mandatory for clinical diagnosis
- Pre-existing hypertension is a strong risk factor

Features of Preeclampsia

Organ/System	Feature
Proteinuria	protein: creatinine ratio ≥ 30 mg/mmol
Renal	serum or plasma creatinine ≥ 90 micromol/L or oliguria
Haematological	thrombocytopenia, haemolysis, raised bilirubin, raised LDH, decreased haptoglobin, DIC
Liver	raised transaminases, severe right upper quadrant pain
Pulmonary:	pulmonary oedema
Uteroplacental	fetal growth restriction
Neurological	severe headache, visual disturbances, hyperreflexia convulsions (eclampsia), stroke

Risk assessment

- Assess all women with new hypertension after 20 weeks for signs and symptoms of preeclampsia
- The earlier the presentation and the more severe the hypertension, the higher is the likelihood of progression to preeclampsia
- Currently, no accurate predictive tool for preeclampsia

Risk factors for preeclampsia

• Antiphospholipid syndrome	• Previous history of preeclampsia
• BP > 130/80 at booking	• Pre-existing diabetes
• Multiple pregnancy	• Renal disease
• > 10 years since last pregnancy	• Chronic autoimmune disease
• Nulliparity	• Chronic hypertension
• Raised BMI	• > 40 years of age

Risk reduction

- Assess all women for risk factors
- If moderate to high risk, recommend
  - Aspirin 100 mg daily before 16 weeks until 37 weeks or birth
- Advise women to seek advice immediately if they have signs and symptoms of preeclampsia

Initial investigations

- Accurate BP measurement
- Screen for proteinuria each visit (dipstick)
  - Quantify if > 2+ or repeated 1+ proteinuria
- Blood tests
  - FBC, ELFT including LDH and urate
- CTG and USS

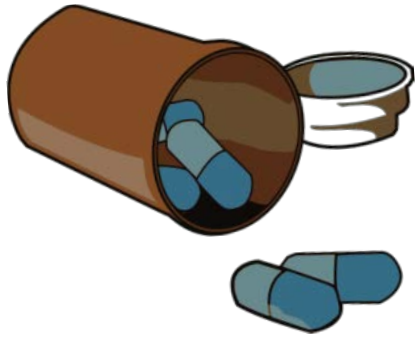
Moderate hypertension

- *Consider* drug therapy if:
  - sBP 140-160 and/or dBP 90-100 mmHg
  - Signs of preeclampsia are present

- Target BP: no clear evidence - suggested
  - sBP < 140 mmHg and dBP < 90 mmHg

Oral antihypertensive drugs

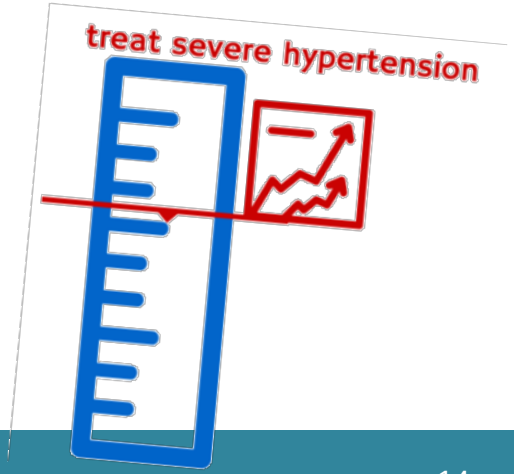
- ACE inhibitors and angiotensin receptor blockers are contraindicated in pregnancy
- First line drugs:
  - Methyldopa, Labetalol, Oxprenolol
- Second line drugs:
  - Hydralazine, Nifedipine, Prazosin, Clonidine



Severe hypertension

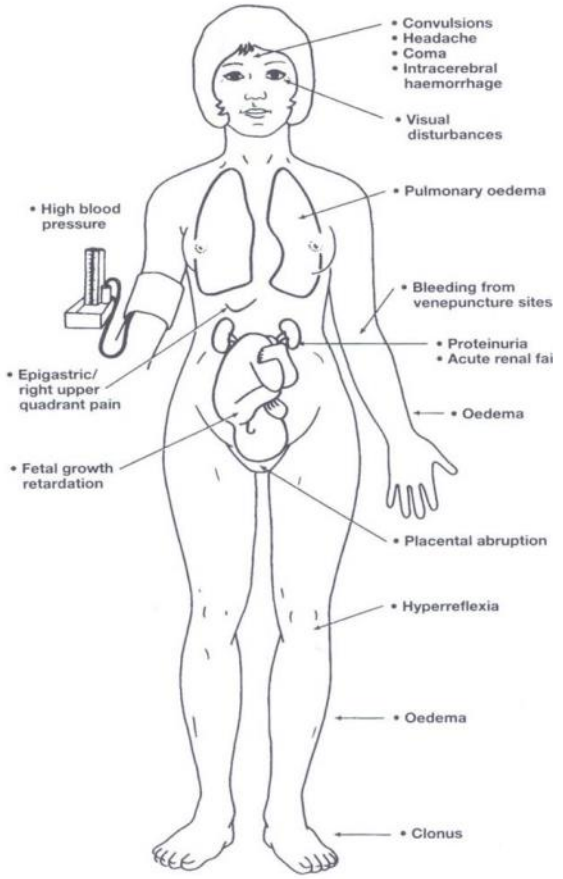
- Commence drug therapy if severe hypertension (sBP ≥ 160 or dBP ≥ 100 mmHg)
- Target BP– aim for gradual lowering
  - sBP 130–150 mmHg / dBP 80–90 mmHg

- sBP ≥ 170 with or without dBP ≥ 110 mmHg is a medical emergency



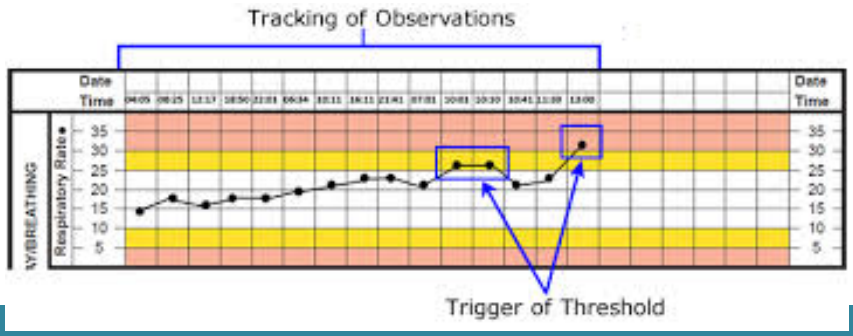
Preeclampsia

- Severity, timing, progression and onset unpredictable – lose surveillance required
- Birth is the definitive management
- Increased severity indicated by difficulty controlling BP, HELLP syndrome, impending eclampsia, worsening fetal growth and wellbeing
- Independent risk factor for VTE



Magnesium Sulfate

- Drug of choice for prevention and treatment of eclampsia
- Indications to commence:
  - Eclampsia
  - Severe preeclampsia
  - Preeclampsia with ≥ one sign of CNS irritability
  - Transfer to higher service level required



HELLP Syndrome

(**H**aemolysis **El**evated **L**iver enzymes **L**ow **P**latelet)

- Variant of severe preeclampsia
- Includes:
  - Thrombocytopenia (common)
  - Haemolysis (rare)
  - Elevated liver enzymes (common)
- Magnesium Sulfate may be indicated
- Consider platelet transfusion
- Plan birth if > 34 weeks gestation

Imminent eclampsia

- Imminent eclampsia: ≥ 2 or more of following symptoms
  - Frontal headache
  - Visual disturbance
  - Altered level of consciousness
  - Hyperreflexia
  - Epigastric tenderness

Eclampsia

- Resuscitation DRSABCD
- Goals of treatment
  - Terminate the seizure
  - Prevent reoccurrence
  - Control hypertension
  - Prevent maternal and fetal hypoxia

- Magnesium Sulfate is the anticonvulsant drug of choice
- Plan birth (if antepartum) asap

Ongoing surveillance

- Plan care and document in health record
- Serial surveillance of maternal and fetal wellbeing
- Frequency, intensity and modality depends on individual clinical circumstances
- Incorporate holistic review of the fetus that includes USS, CTG and maternal wellbeing

Birth

- Multidisciplinary team approach
- Except where there is acute fetal compromise, stablise the woman before birth
  - Control or prophylaxis against eclampsia
  - Control severe hypertension
  - Correct coagulapathy
  - Attention to fluid status

Timing and mode of birth

- Recommend vaginal birth unless CS indicated for other obstetric indications
- Moderate hypertension:
  - If otherwise well ➔ expectant management beyond 37 weeks
- Preeclampsia:
  - Dependent of severity and gestation
- HELLP: Plan birth as soon as feasible

Intrapartum monitoring

- Close clinical surveillance required
- Minimum ½ hourly BP
- Continuous CTG
- IV access
- Multidisciplinary involvement

Intrapartum care

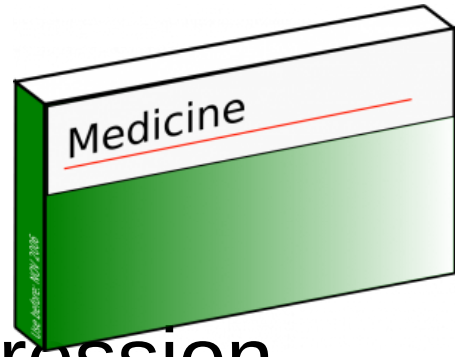
- 2nd stage:
  - If BP is within target range: usual care
  - If BP not responsive to initial drug therapy, advise assisted/operative birth
- 3rd Stage
  - Active management as increased risk of PPH
  - Do not give Ergometrine or Sytometrine

Postpartum

- Hypertension and pre/eclampsia may develop for the first time postpartum
- Continue close monitoring (4 hourly or more frequently)
- Ask frequently about the presence of headaches, epigastric pain
- Actively consider VTE prophylaxis

Postpartum drug therapy

- Continue antenatal antihypertensives
- Cease or reduce when hypertensive changes are resolving
  - Avoid abrupt withdrawal
- If BP persistently elevated start antihypertensives
- NSAID not recommended
- Methyldopa associated with depression



Discharge

- First and second line drugs are compatible with BF
- If taking ACE inhibitors, discuss contraception
- Recommend follow-up screening after 6 weeks to ensure resolution/ascertain need for ongoing care

Discharge advice

- Advise to avoid smoking, maintain healthy weight and of the benefits of exercise
- Encourage overweight women to attain healthy BMI
- Discuss assessment for traditional cardiovascular risk markers (e.g. annual BP, serum lipids, blood glucose)
- Risk reduction for future pregnancy (e.g. Aspirin, change from ACE inhibitors)