Maternity Early Warning System

Factsheet for clinicians – hypertension

Hypertensive disease complicates 5–10 percent of pregnancies overall,[1] while pre-eclampsia affects 3–8 percent of pregnancies in New Zealand.[2] Hypertensive disorders in pregnancy are associated with acute and long-term morbidity in both mothers and babies.[3,4] Management is aimed at preventing maternal complications while minimising fetal morbidity from prematurity and placental insufficiency. A key part of this is early recognition of the development of hypertensive disease in the woman.

The New Zealand Ministry of Health's hypertension guideline[2] defines hypertensive disease in pregnancy as follows:

- mild/moderate hypertension: diastolic blood pressure 90–109 mmHg **or** systolic blood pressure 140–159 mmHg
- severe hypertension: diastolic blood pressure 110 mmHg or greater **or** systolic blood pressure 160 mmHg or greater.

Recognition

The New Zealand maternity vital signs chart and associated maternity early warning system (MEWS) score reflect these definitions, prompting a swift review for women with severe hypertension. Precise pathways for escalation should be developed locally in conjunction with the national referral guidelines[5] and local policies.

Response

If you respond to acutely deteriorating women in maternity, make sure you know what your responsibilities are in managing patients with suspected hypertension. See Table 1 on the next page for recommended capabilities for hypertension management. Note these are indicative only and your hospital will need to localise them to support optimal care for the women receiving its services.

Further guidance

Ministry of Health. 2018. *Diagnosis and Treatment of Hypertension and Pre-eclampsia in Pregnancy in New Zealand: A clinical practice guideline.* Wellington: Ministry of Health. URL: www.health.govt.nz/publication/diagnosis-and-treatment-hypertension-and-pre-eclampsia-pregnancy-new-zealand-clinical-practice (accessed 11 February 2019).

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Table 1: Recommended capabilities for hypertension management

Escalating response to acute deterioration – hypertension

Recogniser

Eg, bedside midwife, nurse, lead maternity carer

Primary responder

Eg, lead maternity carer, senior house officer, registrar

Secondary responder

Eg, senior midwife/ nurse, registrar

Tertiary responder

Eg, on-call obstetric team and/or rapid response team, charge midwife, nurse practitioner, obstetric consultant

Capabilities for hypertension recognition, investigation and treatment

- Accurately measure and document vital signs and MEWS scores.
- Recognise and understand the significance of hypertensive disease in the context of current or recent pregnancy.
- Escalate care using structured communication tools.
- Understand the urgency of treatment and begin appropriate investigations and treatment as ordered (eg, begin cardiotocograph, send pre-eclampsia bloods, perform urinalysis, administer antihypertensive therapy).
- Monitor and escalate care further as required.

As for recogniser and:

- undertake initial assessment, discuss findings and proposed plan of care with a senior clinician
- understand the urgency of treatment of levels of hypertensive disease in pregnancy and refer accordingly
- communicate and document agreed plan of care
- be familiar with local and national guidelines on managing hypertensive disease in pregnancy. Begin assessment, investigation and treatment as required, including assessment of fetal wellbeing as appropriate
- be familiar with local antihypertensive therapy guidelines and able to prescribe this treatment
- be aware of referral guidelines and arrange referral for transfer to specialist obstetric care, if appropriate.

As for primary responder and:

- provide advanced clinical assessment and determine differential diagnosis
- consider need for seizure prophylaxis
- discuss the clinical situation, treatment options and goals of care with the woman, her family and whānau and lead maternity carer
- assess response to initial therapy and plan ongoing care, including delivery if appropriate
- refer for ongoing care and review as required, eg, high-dependency unit for intravenous antihypertensive therapy.

As for secondary responder and:

- manage eclampsia
- provide life-sustaining support as indicated
- ensure the woman and the fetus are receiving appropriate monitoring, investigations and treatments, if applicable
- refer for definitive care, as required, including safe transfer to intensive care or other medical facility.

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1 Kenny L, Black M, Poston L, et al. 2014. Early pregnancy prediction of preeclampsia in nulliparous women, combining clinical risk and biomarkers: the screening for pregnancy endpoints (SCOPE) international cohort study. *Hypertension* 64: 644–52.
2 Ministry of Health. 2018. *Diagnosis and Treatment of Hypertension and Pre-eclampsia in Pregnancy in New Zealand: A clinical practice guideline.* Wellington: Ministry of Health.
3 Lisonkova S, Sabr Y, Mayer C, et al. 2014. Maternal morbidity associated with early-onset and late-onset preeclampsia. *Obstetrics and Gynaecology* 124: 771–81.
4 Habli M, Levine R, Qian C, et al. 2007. Neonatal outcomes in pregnancies with preeclampsia or gestational hypertension and in normotensive pregnancies that delivered at 35, 36, or 37 weeks of gestation. *American Journal of Obstetrics and Gynecology* 197: 406.e1–7.
5 Ministry of Health. 2012. *Guidelines for Consultation with Obstetric and Related Medical Services (Referral Guidelines).* Wellington: Ministry of Health.