Diversity Midwives

Management of Hypertensive Disorders of Pregnancy

Section	Antenatal, Intrapartum, Postpartum	Sub-Section	If applicable
Protocol	Management of Hypertensive Disorders of Pregnancy	Protocol #	2.4
Distribution	Practice Directors, Registered Midwives of Diversity Midwives (Staff Midwives), Administrative Staff Team, Students at Diversity Midwives	Page(s)	6
Approved	January 2021	Due to be reviewed	2-5 years later
Effective	January 2021	Revision	NA

1.0 **Purpose:**

The purpose of this protocol is to be used as a reference tool and a guide for the management of hypertensive disorders of pregnancy. These guidelines pertain to antenatal, intrapartum, and postpartum care.

2.0 **Background:**

Hypertensive Disorders of Pregnancy (HDP) are a major cause of poor pregnancy outcome in Canada. HDP encompasses a spectrum of conditions, including pre-existing hypertension, gestational hypertension, and preeclampsia. These conditions range in severity from a mild increase in blood pressure at term with no additional signs, symptoms, or adverse sequelae to multisystem conditions with the potential harm for the gestational parent and baby. (1)

The etiology and pathophysiology of HDP remains unexplained. This may be due to the heterogeneous nature of HDP and its varied clinical progression. Pathogenesis may also differ according to the presence of risk factors and the timing of disease onset. (1)

3.0 **Protocol:**

3.1 INCIDENCE/RISK FACTORS

3.1.1 Approximately 1% of pregnancies in Canada are affected by pre-existing hypertension, 5% to 6% by gestational hypertension without proteinuria, and 1% to 2% by preeclampsia. (1)

3.1.2 There is currently no clinically useful model for the prediction of preeclampsia, although maternal history and characteristics will identify approximately 30% of people who will develop preeclampsia. (1,2)

3.1.3 See Appendix A and B for Risk Factors Predicting Onset of Preeclampsia and Complications of Severe Preeclampsia.

3.2 CLASSIFICATIONS/DEFINITIONS

- **Hypertension:** Systolic Blood Pressure (sBP) ≥ 140 or Diastolic BP (dBP) ≥ 90 mmHg
- **Severe Hypertension:** Systolic BP ≥160 or Diastolic ≥110 mmHg (1,2,3)
- **Chronic Hypertension:** Predates pregnancy or appears before 20 weeks gestation (1,2,3)

- **Gestational Hypertension:** New onset hypertension after 20 weeks gestation, with no other maternal organ dysfunction (1,2,3)
- **Preeclampsia:** Gestational or Chronic Hypertension along with one or more of the following new onset conditions:
  1. Proteinuria
     a) Urinary protein measurement equal to or greater than 0.3 g/day in a 24-hour urine collection or ≥ 30 mg/mmol urinary creatinine in a spot urine sample. (1,2)
  2. Other maternal organ dysfunction (renal, liver, neurologic, hematologic)
  3. Uteroplacental dysfunction (fetal growth restriction) (1,2,3)
- **White Coat Hypertension:** Systolic BP ≥ 140 or Diastolic BP ≥ 90mmHg in office/clinic, but lower with home or ambulatory BP monitoring. (1,2,3)
- **Eclampsia:** The occurrence of seizures in a preeclamptic patient that cannot be attributed to other causes. (1,2,3)

3.3 MIDWIFERY ASSESSMENT

3.3.1 Risk factors should be identified at intake and documented on the Ontario Perinatal Record (OPR) (See Appendix A and B)

3.3.2 Blood pressure should be measured at each antenatal visit.

3.3.3 If blood pressure is consistently higher in one arm, the arm with the higher values should be used for all blood pressure measurements.

3.3.4 If a value of 140/90 or higher is obtained, repeat in 15 minutes. If blood pressure remains high, assess for proteinuria.

- Urinary dipstick reading of nil or trace is considered to be negative for urinary protein; a value of +1 to +4 on a urine dipstick is considered positive for urinary protein.

3.3.4 Assess for signs of preeclampsia

- Persistent headache
- Visual disturbances (blurring, flashing, dark spots in the field of vision)
- Epigastric pain/upper right quadrant pain
- Nausea and/or vomiting
- Chest pain/shortness of breath

3.4 MANAGEMENT

3.4.1 Preventive Measures

- Low-dose Aspirin 75-100mg/day should be administered at bedtime, starting pre-pregnancy from diagnosis (or if risk factors present) **before** 16 weeks gestation and continued through to delivery. (1,2,3)
  (Please refer to Practice Protocol on the Use of Aspirin [ASA] in Pregnancy for more in-depth clinical use.)
- Calcium supplement ≥ 1g/day. (1,2,3)

3.4.2 Antenatal

- If blood pressure is high, but **NO** proteinuria or other symptoms, advise client to purchase a blood pressure machine to monitor BP daily, morning and night.

- Client should be instructed to page their on-call midwife if they record a reading of ≥ 140/90 or higher at home, or experience any symptoms of preeclampsia (see 3.3.4).
- If blood pressure is high, **with** evidence of proteinuria, the clinic midwife will contact the on-call midwife to further assess the client in triage at the hospital.
- The on-call midwife will meet the client in triage and complete the following tasks: NST, vital signs, urine specimen, routine and PIH bloodwork (PIH bloodwork must be ordered by the on-call obstetrician).
- The on-call midwife will consult with the on-call obstetrician to plan for the recommended course of treatment.
- If the client is placed on anti-hypertensive medication, the primary midwife can inquire if the prescribing obstetrician can accept the transfer of care, or if a consult should be sent to a different obstetrician for ongoing care.
- The midwife team will remain involved with the client for supportive care and will attend the birth and provide all planned postpartum care.

3.4.3 Intrapartum

- In the event of high blood pressure in the intrapartum period, the primary midwife will consult with the on-call obstetrician and a decision will be made at that time if a transfer-of-care is warranted.
- Individuals with HDP are at risk of coagulopathy and thrombocytopenia. Consequently, the likelihood of postpartum hemorrhage may be increased. Active management of the third stage of labour is recommended. (1)
- Ergot (ergonovine maleate) used prophylactically in the third stage of labour is associated with increased risk of elevated blood pressure (RR 2.60, 95% CI 1.03-6.57) and therefore **should not be used** as prophylaxis in individuals with HDP. (1)

3.4.4 Postpartum

- Blood glucose screening for hypoglycemia for the neonate **when** there has been maternal use of Labetalol. (4)
- ***Gestational hypertension and preeclampsia may present initially or worsen following delivery.*** The peak time for the appearance of hypertension postpartum is on days 3–6 when the mobilization of the extracellular fluid accumulated during pregnancy occurs. (2)
- All people at risk for hypertensive disorders of pregnancy must be monitored carefully in the postpartum period with ongoing attention to blood pressure, renal function, and seizure risk. (2)
- Monitor blood pressure at all regularly scheduled postpartum visits for the first two weeks postpartum or until blood pressure has returned to normal for two consecutive visits for clients who have experienced HDP. (1)

3.5 COMMUNICATION PLAN/STRATEGY

3.5.1 Midwives will note all blood pressure readings at each antenatal visit

3.5.2 In the event of a high blood pressure reading (with or without proteinuria), the midwife will have a detailed informed choice discussion with the client and signs

and symptoms of HDP and the recommendation for further medical investigation.

3.5.3 The clinic midwife will update the on-call midwife in a timely manner regarding the need for further medical attention.

3.6 CONSULTATION/TRANSFER OF CARE

3.6.1 The on-call midwife will consult, at the hospital, with the on-call obstetrician for high blood pressure, with out without proteinuria.

3.6.2 For clients prescribed anti-hypertensive medication, antenatal care will be transferred to an obstetrician, with the midwifery team remaining involved for supportive care, attendance at the birth, and postpartum care.

4.0 **References**

1. Association of Ontario Midwives HDP CPG Working Group. Hypertensive disorders of pregnancy: clinical practice guideline no. 15. June 2012. Available from: https://www.ontariomidwives.ca/sites/default/files/CPG%20full%20guidelines/CPG-HDP-PUB.pdf

2. Society of Obstetricians and Gynaecologists of Canada. Hypertensive disorders of pregnancy. ALARM Course Manual. 23rd ed. SOGC 2016-2017; Ch. 17.

3. Magee LA, Pels A, Helewa M, Rey E and von Dadelszen P. Diagnosis, evaluation and management of the hypertensive disorders of pregnancy: executive summary. Clinical Practice Guideline No. 307. J Obstet Gynaecol Can 2014;36(5):416–438.

4. Narvey MR and Marks SD. CPS Position statement: The screening and management of newborns at risk of low blood glucose. Pediatric Child Health. Nov 2019; 24(8):536-544. Available from: https://academic.oup.com/pch/article-pdf/24/8/536/31296856/pxz134.pdf

5.0 **Policy Changes:**

Policy #	Approval Date	Describe Change(s)
TBD		First Version of this policy (example)

Appendix A.

T1 Markers			T2 or T3 Markers
Demographics	**Past History**	**Current Pregnancy**	
• Maternal Age ≥ 40 years < 18 Years	• Obesity (BMI ≥35) • Family history of preeclampsia (mother, sister)	• First ongoing pregnancy • Inter pregnancy interval ≥ 10 years • First sBP ≥ 130 mm Hg or dBP ≥ 80 mm Hg	
• Ethnicity: Nordic, Black, South Asian or Pacific Islander • Lower socioeconomic status	• Non-smoking • Heritable thrombophelias o Factor V Leiden o Protein S deficiency o Antiphosolipid antibodies • Increased pre-pregnancy triglycerides • Family history of early-onset cardiovascular disease • Cocaine or methamphetamine use	• Inter-pregnancy interval < 2 yr • Reproductive technologies to conceive (subfertility) • New partner (first pregnancy or short duration of exposure) • Gestational trophoblastic disease Infection during pregnancy (e.g., UTI, periodontal disease	• Systolic BP > 120 mm Hg • Abnormal Maternal Serum Screen (MSS) • Abnormal uterine artery Doppler velocimetry • Excessive weight gain in pregnancy • Cardiac output > 7.4 L/min • Elevated uric acid • Investigational laboratory markers

Source: Society of Obstetricians and Gynaecologists of Canada. Hypertensive disorders of pregnancy. ALARM Course Manual. 23rd ed. SOGC 2016-2017; Ch. 17.

Appendix B.

COMPLICATIONS OF SEVERE PREECLAMPSIA	
BIRTHING PARENT COMPLICATIONS	**OBSERVED INCIDENCE WITH SEVERE PREECLAMPSIA**
Placental abruption	1% - 4%
DIC/HELLP Syndrome	10% - 20%
Pulmonary edema/aspiration	2% - 5%
Acute renal failure	1% - 5%
Eclampsia	~1%
Liver failure or hemorrhage	~1%
Stroke	Rare
Death	Rare

FETAL/NEONATAL COMPLICATIONS	
Preterm delivery	15% - 67%
IUGR	10% - 25%
Hypoxia/neurologic injury	~1%
Perinatal death	1% - 2%

Source: Association of Ontario Midwives HDP CPG Working Group. Hypertensive disorders of pregnancy: clinical practice guideline no. 15. June 2012.