Hypertensive disorders in pregnancy - Diagnosis, Evaluation and Management

Guideline submitted to Nepal Society of Obstetricians & Gynaecologists (NESOG) 2013
Introduction

- Hypertensive disorders in pregnancy is one of the most rapidly advancing fields in medicine.
- The last few years have seen an enormous number of randomized clinical trials and Meta analyses which have served to increase the knowledge and understanding of hypertension.
Introduction

• Maternal Mortality Rate of Nepal
  – 229 per 100,000 live births
  – Eclampsia was the second leading direct cause which has increased from 11% in 1998 to 21%.

Nepal Maternal Mortality and Morbidity Study (NMMS 2008/2009), USAID, DFID, SSMP/NEPAL, MOH/NEPAL
Introduction

• This guideline contains recommendations for diagnosis, evaluation and management of hypertensive disorders during pregnancy ante partum, intrapartum and postpartum period.

• It also contains recommendations for those with chronic hypertension willing to conceive as well as the management for those after a pregnancy complicated by hypertension.
Objectives

• To standardize the approach to diagnosis, evaluation and management of hypertension in pregnancy in the pre-, during and post-delivery period in order to improve the outcome for the mother and child.
Methodology

• Agreement with NESOG
• Formation of the team members/advisors
• Literature search/review online & reference books
• Several sittings and discussions on preparing the outline of Guideline preparation
• Distribution of the chapter of the guideline to the members of the team to prepare the outline and the content.
Methodology

• These guidelines are based on those issued by the National Institute of Clinical Excellence (NICE), British Hypertension Society, other international guidelines and scientific evidence from recent major trials.
Methodology

• They were discussed with experts in various hospitals and institutes, keeping in mind the cost effectiveness, accessibility and availability of the treatment.

• However, the final treatment may vary from one individual to another depending on the situation and existing facilities available at that point of time.
Content of the Guideline

• Acknowledgement
• Introduction
• Objectives
• Methodology
• Pathogenesis
• Diagnosis
• Classification
• Management
  – Gestational hypertension
  – Pre eclampsia and eclampsia
  – Chronic hypertension
  – Superimposed Hypertension
• Bibliography
• Annexes
Pathogenesis

• Pre-eclampsia -- multisystem disorder.
• The pathophysiology is still unclear. Many consider the placenta being the pathogenic focus for all manifestations, because delivery is the only definitive treatment of the disease.
• Pathologic changes in this disorder are primarily of ischemic nature affecting the placenta, kidney, liver, brain and coagulation system.
Diagnosis

All pregnant women who present with hypertension require a thorough history-taking, physical examination and investigation.

The aim of the assessment is:

• To classify hypertension in pregnancy
• To determine the severity of the disease
• To find out the involvement of the end organs
• To plan further management of the case
Diagnosis

• The classification of the hypertensive disorders of pregnancy is based on the two most common manifestations: hypertension and proteininuria.

• The guideline describes the correct method of measurement of blood pressure, urine protein estimation & baseline investigations of women who develop hypertension during pregnancy and those women who enter pregnancy with hypertension.
Classification

**Classification:** (Working group of the NHBPEP—National High Blood Pressure Education Program 2000)

**Gestational hypertension**

- Systolic BP ≥140 or diastolic BP ≥90 mmHg for the first time during pregnancy after 20 weeks
- No proteinuria
- BP returns to normal 12 weeks postpartum
- Final diagnosis made only postpartum
- May have other signs and symptoms of preeclampsia, for example, epigastric discomfort or thrombocytopenia
Classification

• Preeclampsia
  – Minimum criteria:
    • BP $\geq 140/90$ mmHg after 20 weeks gestation
    • Proteinuria $\geq 300$ mg/ 24 hours or $\geq 1+$ dipstic
Classification

**Increased certainty of preeclampsia:**

- BP ≥160/110 mm Hg
- Proteinuria 2.0 gm/24 hours or ≥ 2+ dipstick
- Serum Creatinine >1.2 mg/dl unless known to be previously elevated
- Platelet <100,000/µl
- Microangiopathic hemolysis - increased LDH
- Elevated serum transaminase levels- AST or ALT
- Persistence headache or other cerebral or visual disturbance
- Persistence epigastric pain
Classification

• **Eclampsia**
  – Seizures that cannot be attributed to other causes in a woman with preeclampsia

• **Superimposed Preeclampsia on Chronic Hypertension**
  • New onset proteinuria ≥ 300mg/24 hours in hypertensive women but no proteinuria before 20 weeks’ gestation
  • A sudden increase in proteinuria or blood pressure or platelet count < 100,000/µl in women with hypertension and proteinuria before 20 week’s gestation
Classification

• Chronic Hypertension
  – BP $\geq$140/90 mmHg before pregnancy or before 20 weeks gestation not attributable to gestational trophoblastic disease or
  – Hypertension first diagnosed after 20 weeks gestation and persists even after 12 weeks postpartum
Management

• Guideline includes the management separately for each type of hypertension:
  – Gestational hypertension
  – Pre-eclampsia (non-severe/severe) & eclampsia
  – Chronic hypertension
  – Superimposed hypertension
Management

• For each type of disorder following title is given:
  – Definition
  – Risk factors
  – Preventive measures
  – Initial assessment of the patient
  – Determine the severity of the disease
  – Criteria for admission and outpatient management
  – Appropriate antihypertensive used during ante-partum period
Management

– Monitoring for fetal and maternal wellbeing in ante-natal period.
– Criteria for discharge in antepartum period.
– Time of follow up visit in antepartum period.
– Determination of time /mode of delivery.
– Monitoring during intra-partum period.
– Appropriate antihypertensive during post-natal period.
Management

– Follow up: Immediate postpartum and long-term period.
– Discharge criteria in post natal period.
– Advice on contraception post partum
– Re-classification of the disease
– In cases of chronic hypertension pre-pregnancy counseling and appropriate management
Management

– Bibliography

– Annexes
  • Boxes of recommendation for different antihypertensive drugs used in pregnancy
  • Preparation of Magnessium sulphate
  • Regimen for prophylactic/therapeutic treatment for eclampsia.
Acknowledgements

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