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CASE STUDY

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HYPERTENSION IN PREGNANCY: A COMPREHENSIVE OVERVIEW AND HOMOEOPATHIC MANAGEMENT

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ABSTRACT

Hypertension in pregnancy is a significant cause of maternal and fetal morbidity and mortality worldwide. This condition encompasses various types, including gestational hypertension, pre-eclampsia, and chronic hypertension. Effective management is critical to ensuring maternal and fetal well-being. This article provides an overview of hypertension in pregnancy, exploring its causes, risk factors, clinical presentation, complications, and management strategies, with a focus on homoeopathic interventions.

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INTRODUCTION

Hypertension in pregnancy is a complex and multifactorial condition affecting approximately 5–10% of pregnancies globally. It poses serious risks to both the mother and the developing fetus. Hypertension in pregnancy is categorized into chronic hypertension, gestational hypertension, and pre-eclampsia. Early diagnosis and tailored management strategies are crucial to minimize adverse outcomes. This article delves into the pathophysiology, clinical manifestations, and management, including the potential role of homoeopathic remedies in promoting holistic maternal health.

Types of Hypertension in Pregnancy:

- **Chronic Hypertension:** Pre-existing hypertension diagnosed before 20 weeks of gestation.
- **Gestational Hypertension:** Hypertension that develops after 20 weeks without significant proteinuria.
- **Pre-eclampsia:** A severe form characterized by hypertension and organ dysfunction, including proteinuria.
- **Eclampsia:** A life-threatening progression of pre-eclampsia with seizures.

Causes and Risk Factors

- Genetic predisposition
- Obesity and metabolic syndrome
- Advanced maternal age
- Multiple pregnancies
- Previous history of pre-eclampsia or chronic hypertension

Long-term Health Implications

Women who experience hypertensive disorders during pregnancy face a 2- to 4-fold increased risk of cardiovascular diseases later in life. Preeclampsia, in particular, is recognized as an independent gender-specific risk factor for future cardiovascular events.

Advancements in Prediction and Prevention

Genetic research has led to the development of polygenic scores for preeclampsia/eclampsia, enhancing the ability to identify women at high risk during pregnancy. This genetic insight could inform targeted preventive strategies, such as the prescription of low-dose aspirin. Additionally, studies are exploring the efficacy of low-dose aspirin in preventing preeclampsia, especially in high-risk groups like twin pregnancies.

Technological Innovations

Emerging technologies, including intelligent bracelets and cyber-physical systems, are being developed for continuous blood pressure monitoring in pregnant women. These devices aim to facilitate early detection and management of hypertensive disorders, potentially improving maternal and fetal outcomes.

Clinical Presentation:

1. Signs of Gestational Hypertension

- **Elevated Blood Pressure:** Systolic BP \geq 140 mmHg or diastolic BP \geq 90 mmHg, measured on two occasions at least 4–6 hours apart after 20 weeks of gestation. No proteinuria or other signs of organ dysfunction (in gestational hypertension).

2. Signs of Preeclampsia

- **Hypertension:** Same criteria as above, but accompanied by one or more of the following:
- **Proteinuria:** Urine protein \geq 300 mg/24 hours or a protein/creatinine ratio \geq 0.3. Alternatively, a dipstick reading of +1 or more.
- **Severe Headache:**

Often unrelieved by medication, indicating potential cerebral involvement.

- **Visual Disturbances:** Blurred vision, photophobia, or seeing spots (scotomata). Upper Right Abdominal Pain: Suggestive of liver involvement or stretching of the liver capsule.
- **Edema:** Sudden onset of swelling, especially in the hands, face, or feet (non-dependent edema).

Rapid Weight Gain: Often due to fluid retention.

- **Nausea and Vomiting:** Can indicate severe disease or HELLP syndrome.
- **Oliguria:** Reduced urine output due to kidney dysfunction.
- **Neurological Symptoms:** Seizures (in eclampsia), hyperreflexia, or clonus.

Severe Features of Preeclampsia

- **Severe Hypertension:**

Systolic BP \geq 160 mmHg or diastolic BP \geq 110 mmHg.

- **Thrombocytopenia:** Platelet count $<$ 100,000/ μ L.
- **Impaired Liver Function:**

Elevated liver enzymes (ALT/AST) and severe epigastric or right upper quadrant pain.

- **Renal Insufficiency:** Serum creatinine $>$ 1.1 mg/dL or doubling of baseline levels.
- **Pulmonary Edema:** Shortness of breath or difficulty breathing due to fluid accumulation in the lungs.

Eclampsia: Defined by the occurrence of seizures in a woman with preeclampsia, without other attributable causes.

Complications: Maternal complications: Stroke, renal failure, HELLP syndrome.

Fetal complications: Preterm birth, intrauterine growth restriction, stillbirth.

Prevention

1. Lifestyle Modifications

- **Healthy Diet:** Focus on a balanced diet rich in fruits, vegetables, whole grains, lean proteins, and low-fat dairy. Limit salt intake to manage blood pressure. Avoid excessive caffeine and alcohol.
- **Regular Exercise:** Engage in moderate physical activity (e.g., walking, swimming) for at least 30 minutes most days of the week,

unless contraindicated.

- **Weight Management:** Maintain a healthy weight before and during pregnancy to reduce the risk of hypertension.
 - **Stress Reduction:** Practice relaxation techniques such as yoga, meditation, or deep-breathing exercises.
2. **Regular Prenatal Care:** Attend all scheduled prenatal visits to monitor blood pressure and detect early signs of hypertension or preeclampsia.
 - **Blood Pressure Monitoring:** Use a home blood pressure monitor if advised by a healthcare provider.
 - **Early Screening for Risk Factors:** Assess for risk factors like obesity, pre-existing hypertension, diabetes, kidney disease, or a history of preeclampsia.
 3. **Medical Interventions for High-Risk Pregnancies**
 - **Low-Dose Aspirin:** Recommended for women at high risk of preeclampsia (e.g., prior history, multiple pregnancies) starting at 12–16 weeks of gestation.
 - **Calcium Supplementation:** For women with low dietary calcium intake, supplementation may reduce the risk of hypertension, especially in low-resource settings.
 - **Medications:** In some cases, antihypertensive medications may be prescribed to control blood pressure safely during pregnancy.
 4. **Avoidance of Risky Substances**
 - **Smoking and Alcohol:** Completely avoid smoking and alcohol, as they can increase the risk of hypertension and other complications.
 - **Caffeine:** Limit caffeine intake, as excessive consumption may contribute to elevated blood pressure.
 5. **Personalized Care for Chronic Conditions:** Women with pre-existing conditions like chronic hypertension or diabetes should work closely with healthcare providers to optimize their health before and during pregnancy.

Management Guidelines: Recent guidelines emphasize the importance of early diagnosis and management of hypertension in pregnancy. Antihypertensive therapies have been shown to reduce the risk of severe hypertension during pregnancy and improve outcomes. The goal of treatment is to maintain blood pressure below 140/90 mm Hg.

CONCLUSION

Hypertension in pregnancy is a critical condition that requires prompt recognition and effective management to prevent adverse maternal and fetal outcomes. While conventional therapies are essential in acute cases, complementary approaches like homeopathy may offer supportive care in managing symptoms and improving overall well-being.

Homeopathy and pregnancy induced hypertension: Homeopathy offers a complementary approach to managing pregnancy-induced hypertension (PIH), focusing on individualized treatment to address physical, emotional, and mental symptoms. It is essential to use homeopathic remedies under the supervision of a qualified practitioner, especially during pregnancy, to ensure the safety of both mother and baby.

Principles of Homeopathy in PIH Management:

1. **Individualization:** Remedies are chosen based on the unique symptoms of the patient, including physical and emotional states.
2. **Gentle Healing:** Homeopathy aims to support the body's natural healing processes without causing harm.
3. **Holistic Approach:** Focuses on treating the underlying causes and not just the symptoms.

Common Homeopathic Remedies for PIH

1. Belladonna

For sudden-onset hypertension.

Symptoms: Throbbing headaches, flushed face, sensitivity to light, and heat in the body. Indicated when blood pressure is very high with restlessness.

2. **Glonoinum:** For acute episodes of hypertension.
Symptoms: Severe headaches with a sensation of fullness or heat in the head, fluctuating blood pressure, and a feeling of constriction in the chest or throat.
3. **Natrum Muriaticum:** For hypertension linked to emotional stress or grief.
Symptoms: Persistent headaches, emotional sensitivity, puffiness around the eyes, and dryness of the lips.
4. **Lachesis:** For hypertension with a feeling of tightness or constriction, especially around the neck.
Symptoms: Worsening of symptoms during sleep, restlessness, and intolerance to heat or tight clothing.
5. **Sepia:** For PIH in women experiencing emotional detachment or apathy.
Symptoms: Weakness, irritability, pelvic dragging sensation, and fatigue.
6. **Apis Mellifica:** For hypertension with noticeable edema.
Symptoms: Puffy face, swelling of extremities, and sensitivity to touch or pressure.
7. **Nux Vomica:** For stress-induced hypertension.
Symptoms: Irritability, digestive complaints, and sensitivity to noise or light.
8. **Calcarea Carbonica:** For hypertensive women with obesity or a tendency to fatigue.
Symptoms: Breathlessness, sweating, and sensitivity to cold.

Precaution: Homeopathy should not replace conventional medical care in cases of severe PIH, preeclampsia, or eclampsia. Always inform your obstetrician about homeopathic remedies you are using. If symptoms worsen (e.g., severe headaches, visual disturbances, sudden swelling), seek immediate medical attention.

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