

Review Article

Integrated approach on pregnancy induced hypertension

Ms. Srimathi.K¹, Mrs.Poongodi.V², Dr.Renuka.K³.¹ PG student, Kasturba Gandhi Nursing College, Sri Balaji Vidyapeeth, Puducherry.²Assistant Professor, Obstetrics and Gynaecological Nursing, Kasturba Gandhi Nursing College, SBV, Puducherry³Principal, Kasturba Gandhi Nursing College, SBV, Puducherry

Corresponding Author: Poongodi.V

Abstract

Right from the time of birth till last breathe drawn, an individual is invariably exposed to various stressful situations. It is especially a complex phenomenon in modern technological society. Symptoms of stress can be either physiological and psychological. Pregnancy Induced Hypertension (PIH) complicates 6-10% of pregnancies. PIH is defined as systolic blood pressure (SBP) >140 mmHg and diastolic blood pressure (DBP) >90 mmHg. Pregnancy induced hypertension refers to one of four conditions: a) pre-existing hypertension, b) gestational hypertension and preeclampsia c) pre-existing hypertension plus superimposed gestational hypertension with proteinuria and d) unclassifiable hypertension. Pregnancy induced hypertension is a major cause of maternal, foetal and new-born morbidity and mortality. Women with Pregnancy induced hypertension are at a greater risk of abruptio placenta, cerebrovascular events, organ failure and disseminated intravascular coagulation. Stress is a universal experience. The maternal stress during antenatal period can have specific effect on cognitive and brain development of the foetus. Treatment is a balance between managing maternal symptoms, to prevent disease progression and prolonging gestation to improve foetal outcomes. Management of pregnancy- induced hypertension and preeclampsia depends on the gestational stage at presentation, severity of disease, and the condition of the woman and foetus. Pharmacologic therapies must be carefully chosen with efficacy and safety for mother and foetus in mind. The literature review explores commonly using alternative therapies like nutritional supplements, exercise, yoga and relaxation technique are used to prevent and reducing stress among antenatal mothers with pregnancy induced hypertension.

Key words: Integrated, pregnancy induced hypertension, maternal and foetal mortality, pre eclampsia,yoga

AN OVERVIEW FOR PREGNANCY INDUCED HYPERTENSION

In women, pregnancy and child birth are the best events that takes place in the life time experience in mothers. The women should require special care to bring benefits of the product of her outcome. During antenatal period a woman may dies because of high risk will arising especially in the second trimester

like Gestational hypertension, pre-eclampsia, Eclampsia, etc. To prevent certain high risk condition the health care providers should educate the complementary programs among antenatal mothers during their antenatal visit. The health workers must schedule enough time for education and active participation for the mothers to prevent high risks. Put some posters should give brief information regarding pregnancy induced hypertension in the clinics as well as the health care centres, these posters must be written in their language.

Definition of Pregnancy-induced hypertension (PIH):

Pregnancy-induced hypertension is defined as a blood Pressure greater than 140/90mmHg after the 20th week of pregnancy and without significant proteinuria.

Classification of hypertensive disorders of pregnancy;

According to American society of hypertension guidelines, the classification of hypertensive disorders are divided into four categories like Pre Eclampsia, Eclampsia, Chronic hypertension, chronic hypertension with superimposed preeclampsia, Gestational hypertension.

Chronic hypertension: The systolic blood pressure greater than 140 mmHg and the diastolic blood pressure 90 mmHg that occurs before the 20 weeks gestation.

Gestational hypertension: The systolic blood Pressure greater than 140mmHg and the diastolic blood pressure 90mmHg after the 20th week of pregnancy and without significant proteinuria.

Preeclampsia: Gestational hypertension and severe hypertension occurs severe condition after the 20th week of pregnancy with the associated symptoms like high blood pressure and excretion of protein in the urine and it may complicate both mother and foetus.¹

Prevalence for pregnancy induced hypertension

In India, the incidence rate of pregnancy induced hypertension was 5-15%. In primi, it is about 16%, whereas in multiparas it is about 7%. Prenatal mortality is about 10 to 15 % and morbidity range is about 15 to 25%. In per month 20 number of patients were admitted in public hospitals. In 2016 surveillance they found that 1,46,320 new cases of pregnancy induced hypertension were diagnosed.²

Normal physiological change in blood pressure during pregnancy

During in the first trimester there is an elevated level of blood pressure caused by vasodilatation, achieved through the action of mediators like prostacyclin and nitric oxide. This reduction of blood pressure primarily affects the diastolic pressure and a drop of 10 mm Hg is usual by 13–20 weeks gestation. Blood pressure is continues to fall up to 22–24 weeks of gestation. After this, there is a gradual increasing of blood pressure until term or pre-pregnancy levels are to be attained. After delivery the blood pressure usually falls immediately and it increases during the first five postnatal days. In pregnancy

the blood pressure was normal throughout pregnancy the women may experience transient hypertension in the early postpartum period, due to the reflection degree of vasomotor instability.³

Variables associated with pregnancy induced hypertension

The variables related to obstetric conditions includes parity of the women, gestational age, any previous history for pregnancy induced hypertension, gestational diabetic mellitus, medical and family history of illness of hypertension among family members commonly from their mothers side. Personal risks like smoking habits, women with inadequate sleep of at least 9 hours per day. Women who are not following regular physical exercise during their pregnancy and Psychological stress may also associated with these variables.

Maternal factors:

Maternal age, assisted reproductive technology, obesity, pre-existing hypertensive disorder, Pre-existing medical condition like rheumatoid arthritis and systematic lupus erythematosus.

Pregnancy related factors:

Primi parity, multiple pregnancy may develops a medical disorders during pregnancy like venous thromboembolic disease, gestational hypertension, Infection may develop with inflammatory response, abruption placenta and placenta previa.

Clinical variables

The antenatal women should be aware of their necessity to seek immediate advice from a healthcare professional if the mother had experience of pregnancy induced hypertension symptoms. Symptoms includes headache, blurring vision or flashing over the eyes, there is a severe pain below the ribs, hyperemesis gravidarum, oedematous present over the face, hands and feet.

Diagnostic evaluation for pregnancy induced hypertension

Based upon the clinical circumstances the blood pressure should monitor at least four times a day. Lab investigations which includes are electrolytes, renal function test, complete blood count and bilirubin level of the antenatal mother with PIH should check and verify twice a week.⁴

Integrated approach on pregnancy induced hypertension

Antenatal consultations

The women should advised to take 75 mg of aspirin starts daily from the 12 weeks of gestation until the birth of the baby. Women with high risk must had a knowledge regarding causes of gestational

hypertension like a previous pregnancy chronic kidney disease, autoimmune disease such as systemic lupus erythematosus or gestational diabetes mellitus with type I and II and eclampsia. The mother with PIH should be booked or referred to any clinics for treating her gestational hypertension and associating factors. **Rest:** The mother should be placed in left lateral position to prevent from the uteroplacental perfusion and also to reduce puffiness of cheeks and face (oedema). In severe gestational hypertension mothers should schedule their antenatal consultations according to their needs of the mother and her baby. If the women had antihypertensive treatments other than ACE inhibitors, the chlorothiazide drug must be limited of evidence which was available not shown a high impact of increasing risk of congenital malformation with such treatments.

Nutritional supplement: The aim of preventing hypertensive disorders during pregnancy they must take iron, magnesium, folic acid, antioxidants (vitamins C and E), fish oils and garlic.

Diet: Salt restriction in their dietary pattern, this can reduce blood pressure.

Lifestyle: The mother should go for regular physical exercises like kegel's exercise and abdominal breathing exercise during pregnancy with gestational hypertension as well as healthy pregnant women. The mother should sleep 2 hours in a day time and 8 hours in night time⁵.

Complementary therapies for Pregnancy induced hypertension

Complementary and alternative medicine (CAM) which is typically labelled as being outside of conventional medicines which contains a wide ranging spectrum of interferences that aims to ensure health and happiness to indulge illness⁶.

Uses of complementary and alternative medicine therapies

CAM is used to treat the person as whole, desire to do everything possible, to feel hope and gain control, enhance the immune system and fight against disease, manage the symptoms and reduce side effects, help the client to make decision making in matters related to their health, to improve quality of life⁷.

In ancient period yoga called as a science of holistic living. It has been used for centuries in order to reduce stress and promoting health during our pregnancy period. It acts as a good alternative therapy for non-pharmacological measures. An integrated approach of yoga during pregnancy may decrease from the complication of birth weight, preterm labour, and intra uterine growth retardation (IUGR). Yoga can prevent from the further complication includes eclampsia, disseminated intravascular coagulopathy, HELLP syndrome⁸.

In women with pregnancy induced hypertension, the relaxation techniques may combined with effect of progressive muscle relaxation, guided imagery and deep breathing exercises. These techniques is all simple, nonintrusive and inexpensive methods which positively influence the outcome of pregnancy in women with pregnancy induced hypertension. Relaxation techniques are powerful tool for reducing stress and promoting long term healthy behaviour's among mothers with pregnancy induced hypertension. It slowly down the body, mind and soul. The Bensons relaxation therapy is a meditative technique which

was pioneered by Herbert Benson during 1970`s he observed that relaxation therapy produces a relaxation response. He trains an individual daily to enhance the relaxation by improving the mood bringing down blood pressure and reducing stress⁹.

Intranatal monitoring

After reviewing of the platelet count an epidural anaesthetic may encouraged for the mothers to continuing of hypertensive drugs during antenatal period and they must consult with the obstetrician regarding the blood test value which was taken previously it may indicate or diagnosing alert sign for Eclampsia.

Postnatal investigation, monitoring and treatment

Measure blood pressure once a day daily for the first 2 days after child birth . In women with chronic gestational hypertension who have given birth, they must maintain blood pressure lower than 140/90 mm Hg. In a mother with severe hypertension who have given birth they should recommend antenatal antihypertensive treatment. If the woman has taken methyldopa as a treatment for pregnancy induced hypertension during her pregnancy, she should strictly stop within 2 days of birth and restart the antihypertensive treatment the woman was taking before she planned the pregnancy. The post natal review should be done in 6-8 weeks after her childbirth¹⁰.

Risk factors and prevention for pregnancy induced hypertension

Primi parity, preeclampsia in any previous pregnancy, precious baby, age more than 40 years of age, family history of preeclampsia (in mother or sister), certain medical conditions which includes pre-existing hypertension, pre-existing renal disease, pre-existing diabetes.

How can prevent gestational hypertension

Drink at least eight glasses of water a day, increase the amount of protein intake of daily food, avoid of eating fried foods and junk food, use salt as needed for taste, exercise regularly and get enough rest, elevate your feet several times during the day, avoid drinking alcohol and beverages containing caffeine, keep follow your doctor may suggest to take prescribed medicine and addition al supplements.

Complications of PIH

Eclampsia, pre rupture of membrane, placenta previa, abruption placenta, intrauterine foetal death, preterm labour, disseminated intravascular coagulation, Cardiac failure and prolonged coma.

Summary of review & need for further research

Pregnancy induced hypertension is a common health problem with adverse effects for both mother and foetus or neonate. It is believed to be a multifactorial health condition, the pathogenesis mechanism of which is not as yet fully understood. The CAM therapy exists because of many conventional medicine have been limited and its ability to provide relief and meet the patient needs. More studies clarifying the latter will also contribute to more effective medical treatment and optimization of pregnancy outcome. The use of

antihypertensive treatment, especially in cases of mild hypertension, is meanwhile of great concern. More randomized controlled studies are necessary for further evaluation of the ratio of maternal-foetal benefit to risk for foetal adverse effects. Based on this review, no clear pattern emerges with regard to the association between and demographic variables and obstetrical variables in patients with pregnancy induced hypertension.

REFERENCES

1. Brown MA, Lindheimer MD, De Swiet M, Van Assche A, Moutquin JM. The classification and diagnosis of the hypertensive disorders of pregnancy: statement from the International Society for the Study of Hypertension in Pregnancy (ISSHP). *Hypertensive Pregnancy*. 2001; pg.no.9-12
2. Statistics report on world health organization, regarding hypertensive disorders, pre- eclampsia <http://www.int/health systems/topics/ financing>
3. Mudaliar,(2005), Mudaliar & Menon's clinical obstetrics.(9th edn).Orient long man. Publishers Pg.136-142
- 4.Kacica M, Dennison, B, Aubrey R, Hypertensive Disorders in pregnancy guideline summary; New York state Department of health:2013.<http://www.health.gov/professionals protocols.>(Google scholar)
5. Collins C, preventive medicine and treatment of Obstetric Gynaecological Nursing; 1998;Pg.563
6. X. Wu et al. Effect and mechanisms of complementary and alternative medicine during the reproductive process;(2014)
7. Eisenberg D.M, Davis R.B et al. Trends in Alternative medicine use in the united states.1998;280(18).1569-75
8. American Pregnancy Association ;(2011),Alternative relaxation Exercises, retrieved from <http://american pregnancy.org/pregnancy /relaxation techniques.html>
9. Benson H. Minn Med.2009, Mind –body medicine: a model of the comparative clinical impact of the acute stress and relaxation responses; pg.47-50
- 10.Sibai BM, Mercer BM, Schiff E, Friedman SA. Aggressive versus expectant management of severe preeclampsia at 28 to 32 weeks' gestation: a randomized controlled trial. *Am J Obstetric Gynecol*. 1994; pg. 818-822