HYPERTENSIVE DISORDERS WITH PREGNANCY

Essay

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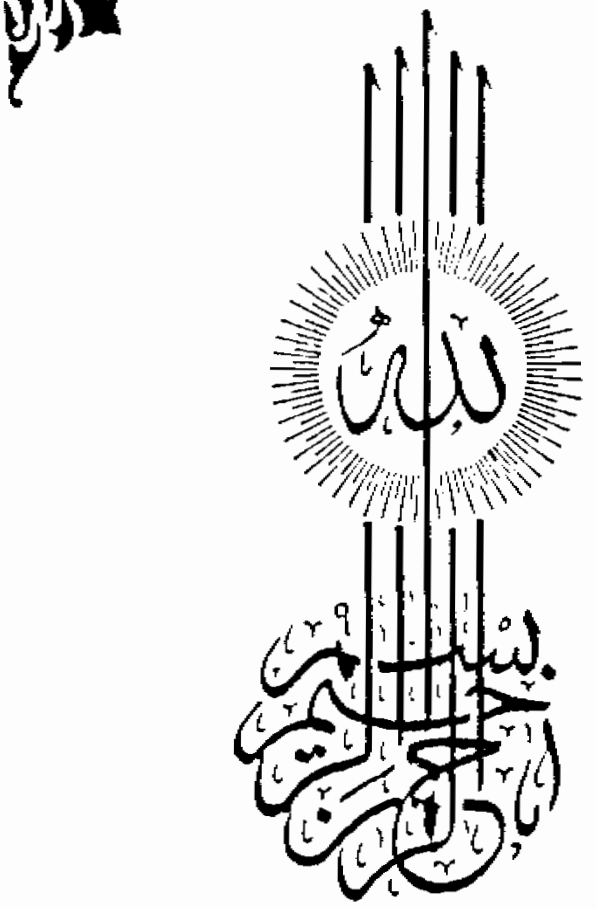

قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا
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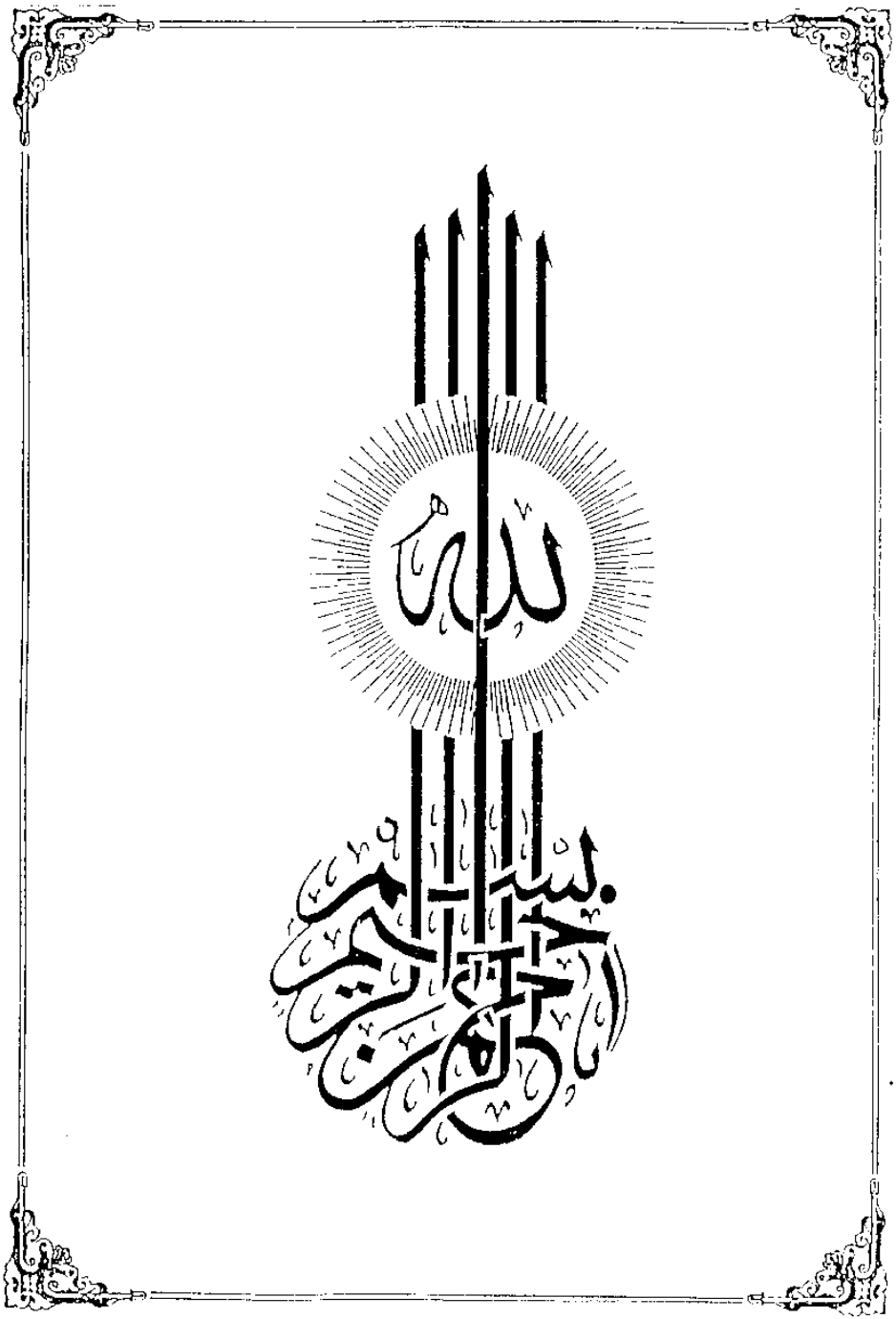

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Contents

"Introduction"

Hypertensive disorders with pregnancy have been one of the commonest complications facing pregnant ladies and they are a leading cause of maternal and fetal mortality and morbidity. W.H.O. in 1986 stated that hypertension with pregnancy, although commoner in black races than white populations, yet it is in general a world-wide problem that affects both developed and developing countries (Davey 1988).

Good prenatal supervision is proved to improve the outcome for both the mother and fetus depending upon early detection of cases through meticulous ante-natal care then a prompt action is taken according to the disease severity (Sibai 1984).

This study aims at discussing the magnitude of the problem of hypertensive pregnancy having a scope on new approaches for diagnosis, prediction, treatment and prevention.

DEFINITIONS, NOMENCLATURE AND CLASSIFICATION

Definitions

Hypertension associating pregnancy represents a common and serious problem in obstetrics. It may include a hypertensive state induced by pregnancy in a normotensive woman or it may be a form of deterioration of the degree of hypertension already present in a hypertensive woman *(Conradt et al 1984)*.

According to Practical Guide to high risk pregnancy by F.Arias. the committee on terminology of American College of Obstetricians and Gynecologists suggested the following definitions *(Hughes 1972)* :

* ***Hypertension*** **:** was defined as increase of 30 mm Hg or more in systolic blood pressure than the prepregnant state or increase of 15 mm Hg or more of diastolic blood pressure than the prepregnant state . or Systolic blood pressure of 140 mm Hg or more and diastolic blood pressure of 90 mm Hg or more provided that the blood pressure is measured in two different occasions 6 hours or more apart.

* ***Gestational hypertension*** **:** was defined as hypertension that develops during the later half of pregnancy or first 24 hours after delivery and not accompanied with other evidences of preeclampsia and it disappears within 10 days after labor.

* ***Gestational edema :***

is generalised accumulation of fluid of greater than (+) pitting

after 12 hours bed rest or weight gain of 5 pounds or more in a week.

* ***Gestational proteinuria :***

is proteinuria during pregnancy in absence of hypertension, edema, and renal infection.

* ***Pre- eclampsia :***

is the development of hypertension with proteinuria and edema induced by pregnancy after 20th week of gestation or sometimes earlier in presence of extensive hydatidiform changes.

* ***Eclampsia :***

is diagnosed when convulsions occur not caused by any coincidental neurologic disease such as epilepsy and occurring in a pregnant woman with preexisting criteria of pre-eclampsia.

* ***Superimposed preeclampsia or eclampsia:***

is the development of pre-eclampsia or eclampsia in a woman with chronic hypertension whether due to renal or vascular diseases.

* ***Chronic hypertension*** : is defined as persistant hypertension of whatever the cause antedating pregnancy or detected before 20 th week of gestation in absence of hydatidiform changes or it is hypertension persisting for 6 weeks after labor.

Classification and differential diagnosis

According to Practical Guide to high risk pregnancy by Fernando Arias (1993). the committee on terminology of the American College of Obstetricians and Gynecologists modified the classification of hypertensive states complicating pregnancy in order to separate hypertension generated by pregnancy from that merely coexisting with it *(Hughes 1972).*

"A" Pregnancy Induced Hypertension : (P.I.H)

Is hypertension which develops as a consequence of pregnancy and regresses postpartum.

This may be one of 2 types :

1. Without Proteinuria or edema :
   " Gestational hypertension"
2. With Proteinuria and / or edema

(a) Pre-eclanpsia
- mild
- Severe
- fulminating

(b) eclampsia

The same as pre-eclampsia along with convulsions.

"B" Pregnancy Aggrevated Hypertension :

Is an underlying hypertension which becomes worsened by

pregnancy i.e superimposed this is either :

.. Superimposed preeclampsia

or .. Superimposed eclampsia.

"C" Coincidental Hypertension :

Is chronic underlying hypertension which antecedes pregnancy or persists post partum, this may be

1. Essential hypertension :
   which accounts for nearly one third of cases of hypertension with pregnancy and its prognosis is usually excellent.

2. Secondary hypertension : to
   - Renal disease like renal artery stenosis.
   - Endocrinal disease like
     . Conn's disease.
     . Pheochromocytoma
     . Cushing disease.
   - Vascular disease as coarctation of the aorta.

Davey (1985) introduced another classification to differentiate the multiple clinical varieties he stated that there are 3 main entities that can be distinghuished :

1. Preeclampsia :

Which is liable to progress to eclampsia it is a disease of primigravida but may recur in the subsequent pregnancies.

The disease occurs in late pregnancy and disappears after delivery not associated with residual hypertension in late life except in cases super-imposed on chronic hypertension .

2. *Gestational hypertension :*

Which represents an inherited latent tendency to essential hypertension in late life, this tendency becomes unmasked by pregnancy. Gestational hypertension is diagnosed in women who are normotensive in the beginning of their pregnancy but with a strong family history and not accompanied with proteinuria.

3. Chronic renal hypertension :

This is diagnosed when chronic renal lesion causes an elevation of blood pressure. The disease is present before and persists after pregnancy although it may be discovered for the first time during pregnancy.

A new clinical classification by Davey and Mac Gillivary (1988) based only on physical signs of hypertension and proteinuria is intended to define clinical categories by which all cases of hypertension and proteinuria occurring in pregnancy, labor or puerperium may be classified as :

(A) Gestational hypertension or proteinuria

Hypertension and/or proteinuria developing during pregnancy, labor or puerperium in previously normotensive non proteinuric women. This is subdivided into :

(1) Gestational hypertension (Without proteinuria)

a. developing antenatally.

b. developing during labor.

c. developing during puerperiun.

(2) Gestational Proteinuria (without hypertension)

a. developing antenatally.

b. developing in labor

c. developing in puerperiun.

(3) Gestational Proteinuric hypertension (Preeclampsia)

a. developing antenatally.

b. developing in labor

c. developing in puerperiun.

(B) Chronic hypertension and chronic renal diseases

Is hypertension and or proteinuria during pregnancy in a woman with antedating chronic hypertension or chronic renal diseases. This is subdivided into :

(1) Chronic hypertension (without proteinuria)

(2) Chronic renal diseases (Proteinuria with or without hypertension).

(3) Chronic hypertension with superimposed preeclampsia: Proteinuria is developing for the first time during pregnancy in women with known chronic hypertension.

(C) Unclassified hypertension or proteinuria

hypertension and/or proteinuria either at first examination after 20 th week of pregnancy in a woman with known hypertension or chronic renal disease or during pregnancy, labor or puerperium where informations are insufficient to permit classification.

(D) Eclampsia

Is diagnosed when generalised convulsions occur during pregnancy, labor or within 7 days after delivery not caused by epilepsy or other convulsive disorders .

Etiology

Incidence and Predisposing factors :

. As mentioned before, it is the development of hypertension together with proteinuria and edema induced by pregnancy. *(Davey 1985).*

.The incidence of pregnancy induced hypertension in most obstetric populations is 5-10% (Mac Gillivary 1983). This incidence makes pre-eclampsia one of the most frequent pregnancy associated complications. *(Pritchard et al 1984).*

. However this incidence depends upon group of predisposing factors including :

(1) Age :

Pre-eclampsia is more common below the age of 17 years and above 35 years (Vollman 1970). This may be due to poor immune capacity at that age.

(2) Parity :

It is well accepted that pre-eclampsia and eclampsia are essentially a disease of the first pregnancy and even if it occurs in subsequent pregnancies, it will be much less severe (Vollman 1970). Many workers reported that the combination of primigravidity and an average age at or above 35 years leads to a higher risk of pre-eclampsia. *(Cambpell and Mac. Gillivary 1985).*

(3) Racial factors :

There is probably a difference in the incidence of

pre-eclampsia among the different racial groups as its incidence in white races is 6.2% while it is 8.5% in black ones. This variation is mostly due to genetic factors that relate the underlying chronic hypertension *(Mac Gillivary 1983).*

(4) Familial factors :

Several studies of W.H.O. reported that there is a familial tendency of both preeclampsia and eclampsia because detailed studies of pregnancy in daughters, grand daughters, daughters in law and sisters of pre-eclamptic women showed that the incidence of pre-eclampsia in those ladies will be at least 26% and the incidence of eclampsia is 2% *(Chesley 1988).*

(5) Blood grouping :

An early report from U.S.A. suggested the role of blood group incompatibility between the mother and the fetus as a predisposing factor for pre-eclampsia. However, most of other studies denied the existence of this relationship. More recently, it was found in the Fedral Republic of Germany by Krauss et al (1978) that pre-eclampsia in blood group "A" is 14.4% while it is 12% in blood group "O" and it is 12% in Rh + ve ladies while it is 9% in Rh-ve ones.

(6) Dietary habits :

It is found that there is a strong relationship between the incidence of pre-eclampsia and malnutrition and this explains the higher incidence in low-social class people. *(Wallenburg 1975).*

(7) Obesity and body size :

It is also found that there is a strong association between incidence of pre-eclampsia and obesity above 90 kg. but no