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Original Article

Prescription Pattern of Antihypertensive Drugs in Hypertensive Disorders in Pregnancy

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ABSTRACT

***Background**: Hypertensive disorders in pregnancy occur in 6% to 8% of pregnancies and contribute significantly to stillbirths and neonatal morbidity and mortality[1]. Expectant mothers with hypertension are prediaposed towards the development of different complications. Though hypertensive disorders in pregnancy cannot be prevented, early diagnosis and treatment help to reduce maternal and foetal adverse outcomes. **Aim**: Aim of our study is to assess prescription pattern of antihypertensive medicines in hypertensive disorders in pregnancy. **Methods**: A prospective cross-sectional study was conducted over a period of one year (from March 2019 to February 2020) at Gynaecology and Obstetrics Department in Sher-E-Bangla Medical College Hospital, Barishal. Patients diognosed as hypertesive disorders in pregnancy were enlisted for primary evaluation. The data regarding demographic details, presenting complaints, obstetric history, gestational age in association with type of hypertensive disorder in pregnancy, antihypertensive medicines priscribed, other medications prescribed were collected. **Results**: Among study patients 48% were 19-23 years of age. 76% had preeclampsia, 13% had eclampsia, 7% were found gestational hypertension and 4% had chronic hypertension. Among the study subjects 56% were primigravida. Majority of the patients were on combination therapy (64%) where as 36% on monotherapy. Methyldopa was the commonest prescribed antihypertensive medicine as monotherapy (14%) as well as in combination therapy (39%). **Conclusion**: Methyldopa was the commonest prescribed antihypertensive medicine in monotherapy and combination therapy, as it is safe during pregnancy.*

***Key words:** Hypertension, preeclampsia, eclampsia, pregnancy*

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INTRODUCTION

Hypertensive disorders in pregnancy (HDP) are responsible for 70,000 maternal death globally, killing one women every 11 minutes[2]. For each death nearly 118

women suffer from life threatening events or severe acute morbidity[3]. Hypertensive disorders in pregnancy is the second leading cause of maternal mortality in Bangladesh, according to Bangladesh Maternal Mortality Survey 2017, with about 24 percent of the country,s maternal death caused by preeclampsia/eclampsia (PE/E)[4]. Pregnancies complicated with hypertersion are associated with increased risk of adverse foetal, neonatal and maternal outcomes, including preterm birth, intrauterine growth restriction, perinatal death, acute renal failure or acute hepatic failure, antepartem haemorrhage, postpartum haemorrhage and maternal death[5].

According to the National High Blood Pressure Education Working Group five classes of hypertensive disorders of pregnancy were identified[6]:

1. Chronic hypertension
2. Preeclampsia
3. Eclampsia
4. Preeclampsia superimposed on chronic hypertension
5. Gestational hypertension

Hypertensive disorders in pregnancy cann't be prevented. Early diagnosis and treatment help to reduce maternal and foetal adverse outcomes. The major goal of antihypertensive medication in hypertensive disorders in pregnancy is to prevent or treat severe hyprtension (generally defined as BP of >=160/110mmHg) and its associated complications and to prolong pregnancy for as long as possible[7] .

Use of antihypertensive medicine during pregnancy is relatively common and increasing. Limited number of antihypertensive medicine is used during pregnancy due to foetal safety concerns. The antihypertensive medicines that may be prescribed in pregnancy are methyldopa, B-blockers, Ca-channel blockers, vasodilators etc. The present study focused on the prescribing pattern of antihypertensive medicines among pregnant women suffering from hypertensive disorders during antenatal check up in a tertiary care hospital.

METHODS & MATERIAL

A prospective cross sectional study was conducted over a period of one year (from March 2019 to February 2020) in Gynaecology and Obstetrics Department of Sher-E-Bangla Medical College Hospital, Barishal. All pregnant women attending for antenatal check up were screened for hypertension. Patients diagnosed as hypertensive disorders in pregnancy were enlisted in the study for primary evaluation. The data regarding demographic details, presenting complaints, gestational age, obstetric history, diagnosis, current medications, antihypertensive medication prescribed were collected.

Inclusion criterta:

i) Pregnant women with hypertension
ii) Primigravida or multigravida

Exclusion criteria:

i) Bad obstetric history
ii) Gestational diabetes malietus
iii) Cardiac abnormalities complicating pregnancy
iv) Renal dysfunction complicating pregnancy.

RESULTS:

During one year (March 2019 to February 2020) 100 patients were included in the study among pregnant women who were coming for antenatal check up in Gynaecology and obstetrics Department of Sher-E-Bangla Medical College Hospital, Barishal. The highest number of patients were found in the age group 19 to 23 yrs (48 %) and the least was found above 39 yrs.

Table I showing age of patients suffering from different hypertensive disorders in pregnancy

Age(in yrs)	Preeclampsia	Eclampsia	Gestational hypertension	Chronic hypertension	%
19 – 23	38	6	4	0	48
24 - 28	27	4	2	0	33
29 - 33	6	1	1	1	9
34 - 38	4	1	0	2	7
>39	1	1	0	1	3
Total	76	13	7	4	100

Table II showing subject characteristics of study population

Characteristics	Mean=100
Age (yrs)	22
Weight (kg)	62
SBP (mm Hg)	159
DBP (mm Hg)	101
Mean arterial pressure (mm Hg)	104
Gestational age	31

Table III showing gestational age during diagnosis

Gestational age (wks)	Preeclampsia	Eclampsia	Gestational hypertnsion	Chronic hypertension
21 - 25	1	2	2	2
26 - 30	9	3	1	1
31 - 35	37	5	2	1
>36	29	3	2	0
Total	76	13	7	4

Table IV Representing gravidity status of patients

Para	Preeclampsia	Eclampia	Gestational hypertension	Chronic hypertension	%
Primigravida	41	9	6	0	56
Multigravida	35	4	3	2	44

Table V Symptoms of patients with hypertensive disorders in pregnancy

Symptoms	No of pts	%
Peripharal oedema	18	18
Severe headche	22	22
Blurring of vision	6	6
Convulsion	5	5

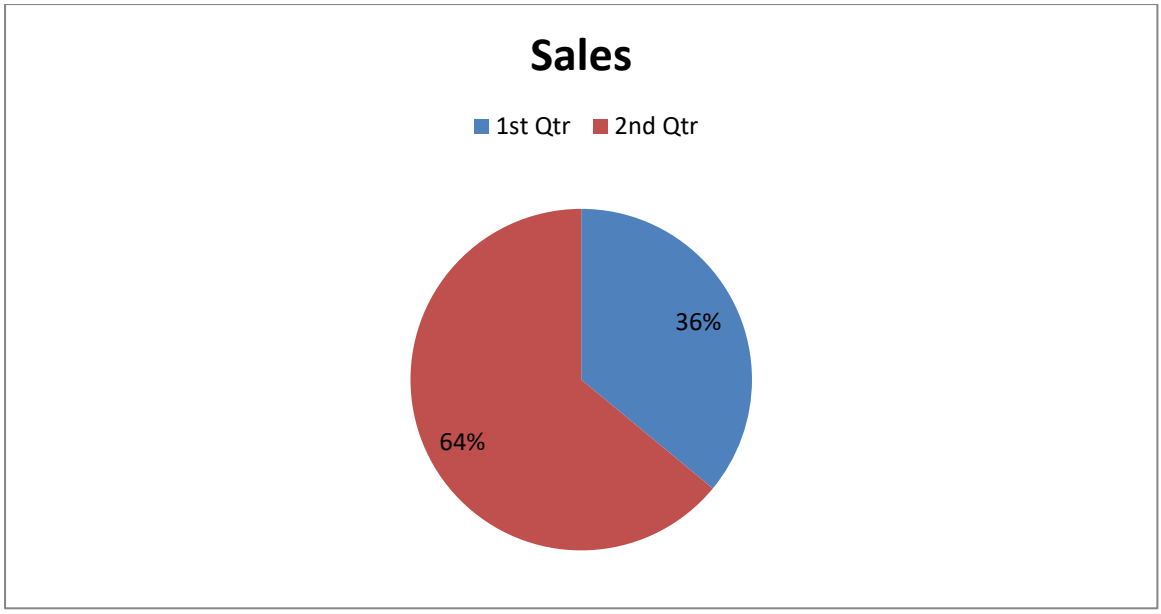

Fig. 1: Pattern of antiypertensive treatment given

Single drug 36%, combination drugs 64%.

Table VI Percentage of drugs given as monotherapy (36%)

Name of medicine	No of pts	%
Methyldopa	14	14
Frusemide	4	4
Nifidipine	8	8
Labetelol	10	10

Table VII Pattern of combination therapy (64%)

Name of medicines	No of pts	% of pts
Methyldopa+ frusemide	2	2
Methyldopa+nifidipine	26	26
Methyldopa+labetolol	11	11
Labetolol+nifidipine	8	8
Labetolol+nifidipine+atenolol	4	4
Labetolol+nifidipine+frusemide	3	3
Labetolol+atenolol	6	6
Nifidipine+atenolol	4	4

DISCUSSION:

Hypertension is the most common medical problem encountered in pregnancy and remains an important cause of maternal and foetal morbidity and mortality[8]. It complicates almost 10% of all pregnancies[9].

This study (Table1) show the highest number of hypertensive disorders occurred among those aged 19 to 23 yrs(48%). This finding is similar with the study conducted by Maniusha Sajith and Vandann Nim who reported early maternal age as a risk factor for developing hypertensive disorders in pregnancy[10]. However Nusrat

and Ashan[11] in their study from Hyderabad, India did not find any significant association with maternal age and hypertensive disorders of pregnancy.

In our study (Table3) we found 76% preeclampsia pts, 13% eclampsia pts, 7% gestational HTN and 4% ch.HTN. This finding is consistent with the study conducted by Uddin AW and Nessa S[12] at the institute of Child and Mother Health,Matuail, Dhaka. But Sharif Hossain and Kanij Sultana[13] reported in their study that 66.7% eclampsia pts, 22% preeclampsia pts, 9% gestational hypertension and 3% ch. Hypertension at Eclampsia unit of the Department of Gynaecology and Obstetrics at Dhaka Medical College and Hospital.

Preeclampsia is primarily regarded as a disease of first pregnancy. In our study 56% were primigravida and 44% were multigravida. This finding is similar with the study conducted by Brown and Higgins in Tasmania, Australia in 2000[14]. But in 1999 Ghamdi et al reported in a similar study at Daman, KSA that 30.3% patients as primigravida while 46% grand multiparous(para>5) and concluded multiparity as a risk factor for developing hypertensive disorder[15].

In our study we found methyldopa was the most commonly prescribed antihypertensive medicine both in singly(14%) and in combination(39%). This finding is similar with the study conducted by Lisiane Freitas Leal et al in Brazil[16]. However study from Ray JG et al[17] showed that nifidipine(47.7%) was prescribed more frequently than methyldopa(27.7%). This shows different utilization pattern of antihypertensive medicines in different hospitals, prescribers and countries.

CONCLUSION:

Hypertensive disorders in pregnancy are common in young age group. Health care providers treating pregnant mother should be aware of the importance of routine BP measurement, recording and monitoring. Regular antenatal check up is necessary to diagnose hypertensive disorders in pregnancy as well as for proper management. Combination therapy is given in majirity of patients. Methyldopa was the commonest prescribed antihypertensive medicine both in single and combination therapy.

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