PROSPECTIVE COMPARATIVE STUDY OF POLYPHARMACY AND PATIENT'S KNOWLEDGE REGARDING ANTIHYPERTENSIVE DRUGS IN OBSTETRICS AND GYNAECOLOGY DEPARTMENT AT TWO TERTIARY CARE HOSPITALS

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ABSTRACT: Objectives: To assess polypharmacy and patient's knowledge regarding antihypertensives in Gynaecology and obstetrics department.
Materials and Methods: This is a prospective comparative study carried out in Gynecology and Obstetrics department in two tertiary care hospitals. A interaction was done with consultants, post graduate students patients and patient's attendants and the readings were taken.
Results: A total of 200 prescription were studied and the average number of per prescription was 2.47%, poly pharmacy in 122/200, adequate knowledge was in 139/200 patients.
Conclusion: The incidence of poly Pharmacy was more in our set of studies, patients compliance/adequate knowledge was good only among educated patients. The concerned health care can be improved by prescribing rational and required prescription and by motivating patients and patient's attender, regarding the intake of drugs.

Key words: Anti-hypertensive drugs, Poly pharmacy, Patient's compliance.

INTRODUCTION

Hypertensive disorders complicating pregnancy are common and form one of the deadly triad, along with hemorrhage and infection, that results in much of the maternal morbidity and mortality related to pregnancy. According to the national center for health statistic in 1998, hypertension associated with pregnancy was the most common medical risk factor[1]. On the other hand many years ago pickering[2] emphasized that high flood pressure is a sign not a disease, that arterial pressure is distributed continuously in the population at large, that the dividing line between normotension and hypertension is nothing more than an artefact. Hypertensive disorders are the most common medical complications of pregnancy with a reported incidence ranging from 6 to 10%[3]. The incidence varies among different hospitals, regions and countries. In addition, these disorders are a major cause of maternal and perinatal mortality world wide[4].

The errors in prescriptions are not uncommon. This could be due to ignorance or inadequate knowledge about the disease and the pharmacology of the drugs prescribed. Erroneous prescriptions are recognized even in tertiary care hospital[5].
As prescribing habits differ from doctor to doctor and several factors influence drug prescribing. It has been proposed that there are differences in prescribing due to differences in therapeutic approach among doctors in different countries[6]. Multiple prescribing is the unnecessary when fever drugs can produce an equivalent beneficial effect. Use of a drug to counteract adverse effects produced by the primary drug though alternative primary drug can reduce or eliminate such adverse effect, eg. Ampicillin produces diarrhea for which antidiarrhoeal's are used. Failure to adequately treat the primary medical condition, that is responsible for the secondary condition for which, the drug(s) is (are) being prescribed. Thus extra drugs are added to the main prescription.

MATERIAL AND METHODOLOGY

This is a prospective comparative study conducted at the department of Gynecology and obstetrics in Government General Hospital and Corporate hospital. The hospital selection was done keeping in view the patients of two economic classes (higher/lower), both the hospitals have full fledged facilities of a tertiary care hospital.

The study was focused on the parameters like:

1. Number of patients receiving one/two/more than two anti-hypertensive agents (polypharmacy).
2. Assessment of patients' education, patients' knowledge regarding the correct use of drug (Adequate knowledge/Patients compliance).

Inclusion criteria

a. All pregnant women with B.P. above 90 mm hg diastolic or systolic 140 mm hg or both.
b. All patients between age group 18 to 35 years.
c. Essential hypertension
d. Pre eclampsia
e. Eclampsia.
f. Patients developing hypertension later during pregnancy (Transient hypertension).

Exclusion criteria

a. Patients with HIV infection, STD.
b. Pregnancy with diabetes, epilepsy, psychosis or hepatitis.
c. Patients who are prescribed sympathomimetics/sympathetic blocking drugs/ MAO inhibitors/cimetidine/neurobptics
d. Personal habits like chewing pan with tobacco, gutka, smoking etc.

The patients were selected from any of the units, belonging to the department. The plan of the study was discussed with teaching staff post graduate students, some information regarding the use of drugs was directly taken from them (patients).

The chief complaints, detailed history of past and present, vital parameters, physical signs and investigations done were recorded. The treatment given from the time of admission upto discharge and also after discharge was recorded.

Statistical analysis was done by using simple random sampling method.

RESULTS

A total of 200 patients were enrolled

(a) Number of patients receiving one/two/ three/more than three antihypertensive drugs.

In Government hospital 18% of patients received only one drug, 34% of patients received two drugs 48% of patients received three or more than three drugs. In corporate hospital 10% of the patients received only one drug, 16% of patients received two drugs 74% of patients received three or more than three drugs. Here we can see more than three drugs were given in majority of the patients in corporate setting (Table 1) combination of drugs given are shown in (Table 2).

(b) Regarding the knowledge of the patients admitted in the hospital and regarding the correct use of the drugs.

In Government hospital out of 100 patients 48% of patients had adequate knowledge and 52% of patients had inadequate knowledge at the same time when compared in corporate hospital, 87% of patients had adequate knowledge and 13% patients had inadequate knowledge this shows in private hospital the patients admitted were with adequate knowledge (Table 3).

Table-1 : Number of patients receiving one/two/three/more than three antihypertensive agents

One/two/three or > than three drugs	Corporate Hospital		Government Hospital	
	No. of Patients	In Percentage	No. of Patients	In Percentage
One drug	10	10%	18	18%
Two drugs	16	16%	34	34%
Three or > three drugs	74	74%	48	48%
Total No. of patients	**100**	**100%**	**100**	**100%**

Table-2 : Antihypertensive drugs used in combinations

Sl. No.	Corporate Hospital	No. of patients received combination drugs	Government Hospital	No. of patients received combination drugs
1.	Nifedipine+(Benzthiazide+ Triamterene)	26	Nifedipine+(Benzthiazide+ Triamterene)	19
2.	Nifedipine+(Benzthiazide+ Triamterene)+ Furosemide	18	Nifedipine+(Benzthiazide+ Triamterene) + Furosemide	9
3.	Methyldopa+Furosemide	6	Nifedipine+Amlodipine+ (Benzthiazide+ Triamterene)+Furosemide	2
4.	Methyldopa+Amlodipine+ (Benzthiazide+Triamterene)	2	Nifedipine+Methyldopa	2
5.	Amlodipine+(Benzthiazide + Triamterene)+ Furosemide)	1	Nifedipine+Amlodipine+ (Benzthiazide+ Triamterene)	1
6.	Amlodipine+ (Benzthiazide + Triamterene)	1	Nifedipine+Furosemide	7
7.	Furosemide+Amlodipine	1	Furosemide+Amlodipine	13
8.	Nifedipine+Atenolol	1	Amlodipine+(Benzthiazide+ Triamterene)	2
9.	Nifedipine+Spironolactone	2	(Benzthiazide+Triamterene) +Furosemide	1
10.	Nifedipine+Amlodipine+ (Benzthiazide+Triamterene) + Furosemide	10	Amlodipine+(Benzthiazide + Triamterene)	1
11.	Nifedipine + Amlodipine + Furosemide	1	Nifedipine+(Benzthiazide+ Triamterene) +Amlodipine+ Furosemide	1
12.	Nifedipine+(Benzthiazide+ Triamterene) + Atenolol	1	Methyldopa+Amlodipine	1
13.	Atenolol+Amlodipine + Nifedipine+Furosemide+ + (Benzthiazide+ Triamterene)	1	Amlodipine+Methyldopa + Furosemide	1
14.	Nifedipine+(Benzthiazide+ Triamterene)+ Amlodipine	6		
15.	Methyldopa+Nifedipine	2		
16.	Nifedipine+Amlodipine+ Atenolol+Furosemide	1		
17.	Nifedipine+(Benzthiazide+ Triamterene)+ Amlodipine	1		
18.	(Benzthiazide+ Triamterene) +Methyldopa+Amlodipine+ Furosemide	3		
19.	Nifedipine+(Benzthiazide+ Triamterene)+ Spironolactone	1		
20.	Methyldopa+Nifedipine+ (Benzthiazide+Triamterene)+ Amlodipine+Furosemide			

Table-3 : Assessment of patient's education, patients knowledge regarding the correct use of the drug (adequate/inadequate)

Patients knowledge	Corporate Hospital		Government Hospital	
	No. of Patients	In Percentage	No. of Patients	In Percentage
Adequate	87	87%	52	52%
Inadequate	13	13%	48	48%
Total No. of patients	**100**	**100%**	**100**	**100%**

DISCUSSION

In this study, the incidence of hypertension in pregnancy was highest among primigravidae. It is well accepted that hypertensive disorders of pregnancy are essentially diseases of the primigavidae as emphasized by Chesby in 1985[7]. Our study correlates with the same. In our study the patients who received three and more than three drugs were about (74% in corporate hospital and 48% in Govt. hospital) the patients who received two drugs were about (16% in corporate hospital and 34% in Govt. hospital) the patients who received only one drug were (10% in corporate hospital to 18% in Govt. hospital. Our study shows that majority of the patients received three and more than three drugs. The large number of drugs used proves our opening statement that modern medicine seems to believe that "most is the best: At the same time we have to be more cautious about polypharmacy and incidence of adverse reactions and drug interactions. We found in our study, that patients admitted in corporate hospital (87%) had adequate knowledge, regarding the correct use of the prescribed drugs which again depends on the educational status of the patients. Only 48% of the patients in Govt. hospital had adequate knowledge regarding the correct use of drug, or to communicate with doctors, or to take care of themselves, this all is because of illiteracy.

CONCLUSION

After a study of two hundred patients of hypertension in pregnancy in the different tertiary care hospitals. In our study most of the patients received three or more than three drugs, as we have given the open statement "most is the best" could be applied here, as we did not find any untoward adverse effect or "Drug interaction" in our study. But we have to be careful when polypharmacy is there regarding the study of particular group of drugs.

In corporate hospital patients knowledge/compliance was satisfactory, mostly because of the educational status of the patient, understanding capacity, family background, good communication with doctors.

The number of patients with satisfactory compliance was comparatively less in Govt. hospital because of illiteracy, poverty, poor antenatal check up and blind beliefs.

Though, both the hospitals are teaching and tertiary hospitals patients knowledge/compliance was good in corporate teaching and general hospital but at the same time patients knowledge and care was comparatively not good in Govt. teaching and general hospital so for this concern

At hospital level we can improve by

1. Drug dispensing facilities at Govt. hospital should be improved.
2. More drug utilization studies should be conducted.
3. CME on rational drug prescribing should be done. It has been observed that face to face training can promote the rational use of drugs.[8]
4. We have to make aware the people use of essential drugs.
5. Correlation between training in university and prescribing practices should be reviewed.
6. More importance should be given to pharmaco-economics.

At individual level

In Govt. hospital to the patients admitted.

1. Education by health care professionals should be encouraged.
2. More time should be devoted by doctors in Govt. hospital education to the patients should be given more effectively.
3. Lastly we should motivate the patient itself to take interest in self care.

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