

A Clinical Audit on Management of Hypertension

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Abstract

Background : Hypertension is a major public health problem globally in both the developed and developing countries and it leads to cardiovascular diseases, stroke and kidney failure. The aim of this study was to identify the deficiency of management and to know the overall approach both by physician and cardiologist in daily routine OPD setting.

Materials and methods : The patients' mean age was 54.9±9.9years, 53.2% were male and 46.8% were female. In history taking important symptoms, family history and smoking history were poorly recorded (51.2%).

Results : Of the hypertensive patients, 78.4% were well controlled (BP<140/90). Out of 80 patients, 44 patients needed combined treatment either at the beginning or during follow up. Hypertension preceded before the onset of many newly detected diabetic subjects in our series. About 70% did have LVH and notably ACS were noted in 7.5% cases. 8.3% were obese. TIA/Hypertensive encephalopathy/CVD were detected in 6.2% cases. CCR or eGFR measurement done in only <1% of subjects routinely when we noted renalinsufficiency in 14% and interestingly some were having erectile dysfunction.

Conclusion : A significant number (20%) of patients discontinued their BP check. At OPD setting Framingham 10 year CVD risk evaluated in <1% cases only. Refractory or Secondary HTN is seen in only 2 cases.

Key words: Hypertension; Blood Pressure; Cardiovascular Diseases; Bangladesh.

INTRODUCTION

It is responsible for 1/3 of global death due to CVD and is the most common risk factor for Cardiovascular Diseases (CVD) chronic kidney diseases and stroke¹⁻⁸. Huge individual and institute expense is used in the treatment of HTN.

Furthermore, the onset of hypertension and CVD occurs at a relatively younger age in Asians and consequently the age at which people die of CVD are younger in developing countries^{2,3}.

Why HTN ?

It is considerably common in younger than in developed countries, leading to widespread social and economic hardship^{4,5}. Prevalence is of 24% (Age> 40 yrs) and this figure is projected to rise to 30%, by 2025⁷⁻¹⁰.

Aim

- i) To identify the deficiencies of management of Hypertensive patients
- ii) To investigate the reasons of deficiency of management of HTN
- iii) To workout the strategies to overcome the deficiency of management.

Prevalence

The prevalence of hypertension varies considerably by country: 20% in the USA and 25-50% in different regions in Europe⁴. Reliable data related to the prevalence, incidence and mortality of hypertension are not available from Bangladesh. A meta-analysis, a population based study and a recently published survey found the prevalence of hypertension in Bangladesh 11.3%, 18.6% and 20.1% respectively⁵. The Bangladesh Non-Communicable Diseases (NCD) risk factor survey in 2010 reported the prevalence of hypertension 17.9% (18.5% in men and 17.3% in women).

Hypertension is probably more common in elderly population. A Bangladeshi study reported the prevalence of hypertension 65% in general, 75% in urban and 53% in rural areas⁶. A recent study among senior citizens showed that 44.8% were hypertensive⁸. Another study reported that hypertension is equally prevalent in rural population among the diabetics, the prevalence of systolic hypertension was 23.2% and diastolic hypertension 13.6%^{3,7}. A recent study showed that systolic hypertension was significantly associated with diabetes complications [OR 0.809, 95% CI 0.666– 0.981 (p-value 0.031) after controlling for all other effect⁷.

HTN is a common co morbid condition in DM and vice versa. DM and HTN coexist in approximately 40% to 60% of patients with type 2 DM^{6,7,9}. HTN may precede the onset of DM. In about 95% cases, it is essential HTN and the rest may be secondary HTN.

MATERIALS AND METHODS

A total of 80 Hypertensive Patients of both male and female at Medicine & Cardiology OPD are investigated randomly including referred refractory /secondary HTN. Patients are followed for a period over 6 months. Target Organ Damage (TOD) and CVD Risk (Framingham 10 year risk) were calculated in some subjects.

RESULTS

80 hypertensive patients were included in the study. The patients' mean age was 54.9 ± 9.9 years, 53.2% were females and 46.8% were males. Age, gender, blood pressure recordings, renal function tests and lipid levels were adequately recorded. Histories of important symptoms, family history and smoking history were poorly recorded (51.2%). Of the hypertensive patients, 78.4% were well controlled (BP<140/90). The last serum creatinine and last serum potassium were normal in 77.6% and 94.7% of patients respectively. The last serum lipid profile (Total cholesterol, low density lipoprotein, high density lipoprotein and triglycerides) was normal in only 52% of patients. Hypertension preceded before the onset of many newly detected diabetic subjects in our series. About 70% did have LVH and notably ACS were noted in 7.5% cases. 8.3% were obese. TIA/Hypertensive encephalopathy/CVD were detected in 6.2% cases. CCR or eGF Rmeasurement done in only <1% of subjects routinely when we noted renal insufficiency in 14% of subjects and interestingly some were

having erectile dysfunction. Good number 20% patients discontinued their BP check. At OPD setting Framingham 10 year CVD risk evaluated in <1% cases only. Refractory or Secondary HTN is seen in only 2 cases.

Table I : Basic characteristics

Variables	Patients number (%)
Sex	
Male	53.2
Female	46.8
Blood Pressure	
Well controlled	78.4
Poorly controlled	12.6
Smoker	51.7
DM	18
Dyslipidaemia	48
Obese	8.3
Target Organ Damage (TOD)	
LVH	69.6
Retinopathy	36.7
MI/Angina / Impending heart failure	7.5
Renal insufficiency	14
TIA / Hypertensive encephalopathy / CVD	6.2
Peripheral vascular disease & Erectile dysfunction	18.7

Table II : Anti Hypertensive drugs used

Drugs	Patients number	%
Single	36	45%
Combined	44	55%
Total	80	100%

DISCUSSION

What was good in HTN Audit ?

All refractory cases were referred. Most had regular follow up.

What was bad in HTN Audit?

- Lack of assessment for TOD & CVD risk in all cases
- Lack of proper assessment of side effects of Anti HTN drugs
- No proper evidence based practice of HTN management
- Lack of advise on life style modifications and physical exercise
- Lack of 10 yrs CVD risk assessments.

What are the causes of deficiency ?

At Patients level

Unawareness of importance of BP control

At Doctor level

Unawareness or unwillingness of target BP level or evidence based management guidelines
Lack of feedback performance

At Practice level (Institute)

No Institute based HTN protocol or policy to enhance assessment of CVD risk and complication screening

Interventions (Suggestions) to improve outcome

Doctor level

- i) Follow upgraded evidence based management guidelines by Cardiologists and Specialist Physicians
- ii) Use template for HTN assessment
- iii) Use CVD risk assessment tool for 10 yrs estimated risks
- iv) Through vigilant look for secondary cause in referred cases

Institute level

- i) Implement HTN protocol to improve outcomes
- ii) Continue monitoring and feed back
- iii) Ongoing problem solving approach
- iv) Periodical audit.

Patient level

Active involvement (Home BP Diary).

LIMITATIONS

HTN data related to hypertension in Bangladesh are often Insufficient or limited and are not readily available.

CONCLUSION

There were some deficiencies in the management of hypertension though it is one of the leading causes of morbidity and mortality in Bangladesh and surely large scale studies are very important. However, with an audit exercise, significant improvement could be achieved by the improvement in the care standard, adopting the evidence based practice following the the guideline or local institute protocol for better outcome.

DISCLOSURE

All the authors declared no competing interest.

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