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Transient high blood pressure: A clinical follow up

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Abstract
We often come across persons with noticeable high blood pressure recordings every day. These people show blood pressure variability (ranging from normal BP to high BP recordings.30 patients were followed up for a period of 12- 18 months. They were assessed for precipitating factors (stress, smoking, alcohol, sleep disturbances, headache and somatic pain).These factors were appropriately managed with medication and lifestyle behavior measures. 16.66% (5) of patients required to initiated on Anti-hypertensive in view of sustained hypertension.83.33 % study patients who showed normal to mild high BP (intermittently) recordings. So its essential to look for precipitating factors which influences the development of Sustained hypertension. Its rewarding to notice normalization of BP After initiating lifestyle and behavior modification (exercise, reducing excess salt, alcohol and smoking).so Transient high BP is a clinical entity with variable Blood pressure readings. This clinical state, requires follow up BP readings and identifications of precipitating factor, which may influence the development of Sustained/primary Hypertension.

Keywords: hypertension, labile BP, transient high BP, predisposing factors

Introduction
We often come across several people in day today observation with high blood pressure (BP) readings. These people show certain time normal BP and certain time increased BP readings.so a clinical study was undertaken to know characteristics of this clinical entity. The complex interaction between neuro endocrinal system and immune mechanics influence the development of Primary hypertension.

Aim: to asses and understand the blood pressure lability factors and possible progression into essential hypertension.

Materials and Methods
30 patients were detected to have, high blood pressure in several recordings over 3 months in OPD and in-patient sections. These patients, visited the hospital for different medical problems. These were observed for a period of 12-18 months for possible progression to primary hypertension. Also assessed for co morbid illness and adequate measures were guided to control the co morbid illness. The patients were informed for lifestyle measures to improve the quality of life. Patients on or recent use of antihypertensive drugs were excluded from study.

Results
Table 1: Demographic characteristics

	no	Percentage
male	18	60
female	12	40
Age group		
20-35	9	30
36- 50	12	40
51 - 65	3	10
>65	6	20
smoking	9	30
Diabetes mellitus	10	33.33
Migraine/mixed type headache	7	23.33
Sleep disorders	5	16.66
Bronchial Asthma	6	20
COPD	4	13.33
IBS	2	6.66
Hypothyroidism	3	10
obesity	4	13.33
osteo Arthritis	4	13.33
Alcohol abuse	7	23.33

16.66% (5) of patients required Antihypertensive drugs initiation in view of sustained high blood pressure and subsequent BP recording showed control of BP.

Table 2: Blood Pressure Recordings

	No (%)	percentage	At 12 wk	At 24 wk	At 36wk	At 54wk
Systolic BP	21	70				
Diastolic BP	9	30				
Mean Syst BP (MM of Hg)	152		144	150	136	130
Mean DP	96		98	94	90	86

Table 3: Investigations

	No of patients	LVH(NO of patients
ECG	30	4
ECHO	6	3
Creatinine (mean) Mg%	1	
Urine –albumin(+)	4	

Table 4: Medications

DRUG	No	Percentage
Propranolol	12	40
Amitryptyline	6	20
Benzodiazepine	3	10

Discussion

30 patients were followed up for a period of 12-18 months. BP recordings showed, fluctuations (normal to high BP recordings) over this period. Patients were managed for co morbid illness with appropriate medications for stress, anxiety, and sleep disorders. Propranolol (20 to 80 mg) was prescribed as an anxiolytic. Patients having somatoform disorders and sleep disturbances were managed by Amitrypt line (10 to 25mgs) and clonazepam (0.5 to 2 mg). These medications were given for 8 to 24 weeks. Only 5 persons (16.66%) showed persistent high blood pressure in Our study and were initiated on Antihypertensive drugs.

It is essential and appropriate to take fixed/average blood pressure reading rather than labile BP readings [2]. Blood pressure can fluctuate in day to day and as well as can persist above the normal at certain time. Identifying appropriate risk factors like stress, anxiety, sleep disturbances somatic /rheumatological pain and appropriate medication and behavior changes, to relive these can influence the BP variations.

Its appreciable to notice normalization of BP, following the management of migraine/mixed pattern of headache with prophylactic drugs. Blood Pressure Lability can be a Clinical Dilemma [1] under various clinical settings like Angina, aortic dissection and white coat hypertension.

The blood pressure recordings can be influenced by endogenous factors (somatic pain, sleep deprivation and anxious states) as well as exogenous factors like the location, the measurer[3] also. Blood pressure fluctuations are also noticeable in patients acute cerebrovascular diseases. and Acute coronary syndrome.

Home blood pressure recordings [5] and BP dairy may provide opportunity to study BP fluctuations and behaviors. Ambulatory blood pressure monitors can be helpful in determining persistence of high blood pressure in Transiently Hypertensive states.

Also abstaining from smoking, reducing the alcohol in take and excess caffeine beverages too can influence the BP variations.

Its essential to observe mild elevated blood pressure patients for 3-6 months and initiate appropriate lifestyle and behavior modification. The antihypertensive medications are often not necessary in Transient high BP fluctuations. Patients initiated on antihypertensive drugs enthusiastically, can develop symptoms of low blood pressure(less than 100 systolic) and predispose for adverse drug reactions. So its appropriate to advise on preventive and lifestyle modification behaviour for Labile blood pressure patients. These measures provide an opportunity to achieve self oriented goals in life.

Simonetta Genovesi, *et al*. [4] showed transient hypertension can be present in children too up to 10%. Jacob George [6] has stressed for home blood pressure recordings can be cost effective in diagnosis of hypertension and management.

Exercise has negative impact on development of sustained hypertension through reduction in heart rate and endothelial dysfuction [7].

The genetic predisposition and several environmental factors will influence the development of Primary hypertension [8].

Dwelling at an altitude ranging from 3500 to 3999 m had a higher prevalence rate of hypertension [9]. It is recommended to take average blood pressure recordings [10] and repeat BP recording, whenever clinical states require reassessment. Persistent stress can induce repeated elevations of BP and may progression to sustained hypertension [11, 12].

The prognostic factors in development of sustained hypertension include aging, smoking, obesity, dyslipedemia excess alcohol, stress and genetic predisposition.

Conclusions

Blood pressure variations are common in day today's life. Its important to asses, evaluate and correct for possible predisposing factors, before we consider the person as primary hypertension. The non-pharmacological measures can provide opportunity to understand the disease course.

Abbreviations

BP- Blood pressure
COPD-chronic obstructuive pulmonary disease
IBS-Irritable bowel syndrome

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