

A CASE REPORT OF EMERGENCY MANAGEMENT IN HYPERTENSIVE CRISIS

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ABSTRACT

Hypertensive crisis is an uncontrolled hypertension, defined as a systolic BP >180mmHg or a diastolic BP >120mmHg. Hypertensive crisis can be classified as a hypertensive urgency & emergency depending on end organ involvement including cardiac, renal & neurologic injury. Hypertensive emergency characterized by severe elevation in BP with evidence of impending or progressive target organ dysfunction. Hypertensive urgencies are associated with severe elevation of BP without progressive target organ dysfunction. Most sufferers (85%) of HTN are asymptomatic and hence early diagnosis is the problem. This case report is presentation of hypertensive urgency of 60 years old male patient, which is well managed by modern drug therapy under the supervision of MBBS Physician. This case report

highlights the pharmacological role of antihypertensive drugs in hypertensive urgency and helped to control this severe condition to preceding life threatening.

KEYWORDS: Hypertensive urgency, Antihypertensive drugs.

INTRODUCTION

HTN is a long term medical condition in which the BP in the arteries is persistently elevated. HTN is the silent killer of mankind, most sufferers are asymptomatic & hence early diagnosis is a problem. Prevalence for hypertension in India is 29.8%.

Classification of BP (joint national committee)

Category	Systolic BP (mmHg)	Diastolic BP (mmHg)
Normal	<120	<80
Pre hypertensive	120-139	80-89

Stage 1	140-159	90-99
Stage 2	≥ 160	≥ 100

In more than 95% of cases, however no specific underlying cause of HTN can be found. Such patients are said to have essential hypertension or primary hypertension. Secondary hypertension caused by alcohol, obesity, pregnancy, renal dysfunction, endocrine disease, Cushing's syndrome, Conn's syndrome, Thyrotoxicosis, drugs & Coarctation of aorta etc. Hypertension is usually asymptomatic until the diagnosis is made at a routine physical examination or when a complication arises. In some patients the symptoms will develop like Headache, Blurred vision, Dizziness, Nausea, Vomiting, Fatigue, Epistaxis, Chest pain, SOB etc. Investigation of HTN includes confirm the diagnosis by obtaining accurate, representative BP measurements. Identify contributory factors- urine analysis for blood, protein & glucose. Blood urea, Electrolytes & Creatinine, Blood glucose, Thyroid profile, Serum total & HDL cholesterol and 12 – lead ECG also important. The objective of antihypertensive therapy is to reduce the incidence of adverse cardiovascular events, particularly CAD, Stroke & HF. HTN mainly managed by non drug therapy & drug therapy. Drug therapy includes diuretics, ACE inhibitors, ARBs, CCBs, B-blocker, A-blocker, Vasodilator, Anti-platelet drug & Statins. This case report presented the pharmacological role of antihypertensive drugs in the management of hypertensive urgency.

CASE REPORT

A 65 years old male patient diagnosed with OA on 5th of July 2019 & admitted in male general ward of Pt. K.L.S. Govt. Ayurveda Hospital, Bhopal with 37977 OPD no. and 1948 IPD no. At the time of admission there was no history of HTN/DM & having complaints of burning throat, bilateral knee joint pain & incontinence with frequency of micturition. He was non smoker & non alcoholic, his father had hypertension. On 6th of July 2019 at 2:30pm examination revealed BP was 200/120mmHg with heart rate 72bpm. There were no heart murmurs, his lungs were clear. There was trace generalised anasarca. Patient was administered Amlodipine 5mg orally, after one hour BP was persist 200/120mmHg after that contacted the MBBS Physician by telephonically at 3:35pm his instructed to Iso-sorbide-di nitrate 10mg sublingually. At 3:49pm BP was 170/110mmHg as per physician interventions Ecosprine 75mg given and ECG was taken immediately which revealed undefined abnormal findings & after looking at the ECG physician instructed to repeat Amlodipine 5mg and monitor BP half hourly. At 7:00pm BP was 120/100mmHg with mild headache. Inj. Lasix 10mg/ml administered to patient & he was kept in hospital overnight and felt better next

morning with BP 120/96mmHg. The patient was discharged on Tab Telpres Am o.d., Tab Moxon 0.3mg b.i.d., Tab Urimix 0.4mg b.i.d. daily for 1week which is advised by MBBS Physician. Lab investigation showed that slightly elevated lipid profile and blood glucose, RFT, Echo are normal.

DISCUSSION AND CONCLUSION

In this case report patient had family history of hypertension. There was no specific cause for HTN so presented case underlying the essential hypertension. This case report has been planned to evaluate the effective emergency management in hypertensive urgency. In this emergency management firstly Amlodipine 5mg was given which is a CCBs, this medicine blocks the movements of extracellular calcium into the cells and causing vasodilation and decreased heart rate. After that Isosorbide di nitrate 10mg was given SL which is a venodilator drug that decreases venous return to heart by reducing preload of heart & prevents the muscles from tightening and arteries from narrowing resulting in reduced BP. Then Ecosprine 75mg was given orally which is an antiplatelet drug, the benefits of this drug is thought to outweigh the risks in hypertensive patients like reducing cardiovascular risk which may cause bleeding, particularly intracerebral haemorrhage etc. By using above three drugs therapy, significant reduction in elevated BP has been achieved. For generalised anasarca inj. Lasix 10mg/ml was given which is diuretic drug & helps the kidney to inhibit the sodium & water reabsorption in the DCT, ascending limb & loop of henle and acts by reducing extracellular fluid volume and cardiac output & they help to counteract the hypertensive effect. The summary of this case report highlights the hypertensive urgency which is acute with marked increase in BP & there is no further end organ damage. By antihypertensive drugs like CCBs, vasodilator, anti-platelet & diuretics significantly reduce BP in hypertensive urgency.

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Abbreviations

ACE: Angiotensin Converting Enzyme

ARBs: Angiotensin Receptor Blockers

BP: Blood Pressure

CAD: Coronary Artery Disease

CCBs: Calcium Channel Blockers

DCT: Distal Convoluted Tubule

ECG: Electro cardio gram

Echo: Echocardiography

HDL: High Density Lipoprotein

HF: Heart Failure

HTN: Hypertension

OA: Osteoarthritis

RFT: Renal Function Test

SL: Sublingual

SOB: Shortness of Breath