

Management of Hypertensive nephropathy

Khawaja Tahir, Muzna Mujeeb, Sadia Khalid.

Lahore College For Women University,Laore

Abstract:

Hypertensive nephropathy is a kidney disease that occurs as a result of high blood pressure this disease is characterized by damage to the vasculature of the kidney as blood pressure rises. In developing countries like Pakistan this problem is very common there is large number of people with chronic hypertension that results in nephropathy there for it was a prospective to evaluate the role of pharmacist in management of hypertensive nephropathy. This study was conducted at MYO Hospital ,SERVICES Hospital and JINNAH Hospital's urology ward and urology OPD in the time period from 7 June to 30 July 2010.65 patients were selected randomly and a standardized performa was developed and filled by direct interview from patients. Result of this study provide evidence that out of 65 patients 8 were(12.3%) suffering from congenital hypertension and 56 patients (86.15%) without it.almost 100%patients were under dialysis and 70.76% patients were facing complications after dialysis and 26.15% were not. pharmacist can contribute to minimizing the patients with renal failure due to hypertension , visiting pharmacist or doctor regularly, information for better use of anti hypertensive drugs, changing life style reducing the risk of nephropathy Hypertensive nephropathy like most other disease can be prevented if we take active steps in guarding our health such as maintaining a proper diet, regular exercise and treatment decision should be of course be individualized based on the clinical characteristics of the patient including comorbidities as well as tolerability, personal preference and cost & elderly hypertensive patients blood pressure should be lowered gradually to avoid complications. Pharmacist conducting review may reduce the magnitude of hypertensive nephropathic patients. Pharmacist and physician counselling and monitoring can improve adherence to treatment.

Key words: *Dialysis, hypertension, nephropathy, nephrosclerosis.*

Introduction:

Hypertensive nephropathy is a kidney disease that happens as a outcome of hypertension. This disease is characterised by harm to the vasculature of the kidneys as blood pressure grows. It should be distinguished from "renovascular hypertension" which is a form of secondary hypertension. In the kidneys, as a result of *benign arterial hypertension*, hyaline (pink, amorphous, homogeneous material) accumulates in the wall of small arteries and arterioles, producing the thickening of their walls and the narrowing of the lumina — hyaline arteriosclerosis.

Consequent ischemia will produce tubular atrophy, interstitial fibrosis, glomerular alterations (smaller glomeruli with different degrees of hyalinization - from mild to sclerosis of glomeruli) and periglomerular fibrosis. In advanced stages, renal failure will occur. Functional nephrons have dilated tubules, often with hyaline casts in the lumens. Additional

complications often associated with hypertensive nephropathy include glomerular damage resulting in proteinuria and hematuria. There are 2 cases of hypertensive nephropathy. These are malignant nephrosclerosis and benign nephrosclerosis. Benign nephrosclerosis is most attending in individuals over sixty years old when the uncommon malignant nephrosclerosis takes place only in 1 to 5 percent of individuals with high blood pressure. Benign nephrosclerosis rarely lead to renal failure. If dangerous damages to the kidney have happened, the patient might not have adequate renal reserve, causing the body too powerless to handle with potential surgery or the incidence of an acute disease. Malignant nephrosclerosis only happens in an event of high blood pressure with diastolic blood pressure passing 130mm Hg. This is attending in patients that already bear a present kidney disease that evolved into malignant hypertension. At the starting of high blood pressure, protein and

blood could come out in the urine and, over time, kidney operate will drop. The patient will sooner or later hurt from kidney failure. This circumstance will be really severe and quick bringing down of the blood pressure

Statistics on Hypertensive Nephropathy is as that incidence of this condition follows closely the incidence and duration of high blood pressure throughout the population. There are two types of this condition including benign nephrosclerosis and malignant nephrosclerosis. Some degree of benign nephrosclerosis can be seen in most individuals over the age of 60 years. Malignant nephrosclerosis however, is an uncommon condition occurring only in 1-5% of patients with hypertension.

Risk Factors for Hypertensive Nephropathy are as Benign Nephrosclerosis:1. Hypertension2. Diabetes mellitus (Type 1, Type 2)Malignant Nephrosclerosis:1. Malignant hypertension (Diastolic blood pressures in excess of 130mm Hg)2. Male gender3. People of colour4. Pre-existing hypertension5. Pre-existing renal disease.

Hypertensive Nephropathy is Diagnosed by Blood tests which may be required to determine how well the kidneys are functioning. A collection of urine over 24 hours may also be required to gauge the severity of kidney disease related to hypertension.

Prognosis of Hypertensive Nephropathy is that Benign Nephrosclerosis as the name suggests, this condition will rarely result in renal failure. Patients who develop this condition will have decreased renal reserve and may not cope very well with acute illness and surgical procedures. Between 1-5% of patients with this condition with develop renal failure at some stage in the disease process. Malignant nephrosclerosis: With modern therapy, 75% of patients

are able to survive more then five years from the onset of disease. The earlier that treatment is initiated, the more kidney will be preserved and the greater the renal function on resolution of the condition. Control of hypertension is central to the management of both malignant and benign forms of the disease. This is achieved using antihypertension medication to essentially remove the stimulus for further kidney damage. The importance of antihypertension medication must be stressed to improve compliance to antihypertensive therapy. In the case of malignant nephrosclerosis, efforts to reduce blood pressure must be more aggressive as the renal damage is accelerated in this form of disease. Admission to hospital is the rule and intravenous drugs may be used to hasten the reduction of blood pressure and thereby quickly prevent any further renal damage from occurring. Aggressive reduction of blood pressure - Use of drugs such as frusemide, thiazide diuretics and hydralazine will rapidly reduce blood pressure and may save renal function if used early enough. In many cases, the patient may develop renal failure that required close observation with many blood tests. Of the acute renal failure cannot be controlled by conservative means, then dialysis may be required to enable eventual recovery from the disease. For malignant nephrosclerosis, a truculent method to lower blood is required since harm in the kidneys is faster compared to benign nephrosclerosis. The patient had better be accepted to the hospital as endovenous medications are applied to quicken the lowering of blood pressure that can preclude additional harms to the kidneys. The most usual drugs applied are diuretics, hydralazine, frusemide and thiazide. These drugs can bring down the blood pressure

quickly and can preserve kidney procedures whenever consumed right away. If worse arrives to worst, intending if the kidney failure isn't ascertained by established methods, dialysis could be needed. Dialysis commonly enables the patient to slowly retrieve from the kidney disease. Hypertensive nephropathy, alike most different diseases, can be precluded if you adopt active measures in defending your health such as sustaining a suitable diet, regular workout and abstention from vices. Treatments Used in This Disease Kidney Transplant. Drugs/Products Used in the Treatment of This Disease are, Aldactone (Spironolactone), Amizide (Amiloride hydrochloride, Hydrochlorothiazide), Apresoline (Hydralazine hydrochloride), Aprinox (Bendrofluazide), Chem mart Frusemide (Frusemide), Frusehexal (Frusemide), Frusemide (Terry White Chemists) (Frusemide), Frusemide-BC (Frusemide), Frusid (Frusemide), GenRx Frusemide (Frusemide), healthsense Frusemide (Frusemide), Hygroton (Chlorthalidone), Kaluril (Amiloride hydrochloride), Lasix (Frusemide), Midamor (Amiloride hydrochloride), Moduretic (Amiloride hydrochloride), Spiractin (Spironolactone), Uremide (Frusemide), Urex, Urex-M, Urex Forte (Frusemide).

Materials and Methods:

The prospective study was conducted in MYO Hospital, SERVICES And JINNAH Hospital. In these hospitals proper management of hypertensive nephropathy is done .64 patients were selected randomly. Hypertensive nephropathic patients have renal failure due to hypertension were included and patients suffering from any other diseases were excluded from sstudy.. A detailed standardized performa was developed. In all performa I recorded data related to

patient such as name , age , address ,sex, profession,family history,past history ie since how much time he/she is hypertensive, complication, medications, dialysis, time period of dialysis,duration of dialysis,medications used during dialysis, complications during dialysis,dietry intake,life style modifications etc. All cases of hypertensive nephropathy in above hospitals were recorded from june 7 -2010 to 30 July 2010..

Results:

The population size of the study is 64 which comprise of patients of age group 10-80 years or above of different gender from Myo, Jinnah and services Hospitals. The tabulated data is as

follows. The population size of study was 64 .the collected data was tabulated and some of important parameters are given graphically below.

Table 1

Total # of pts.	64
Male	36
Female	28

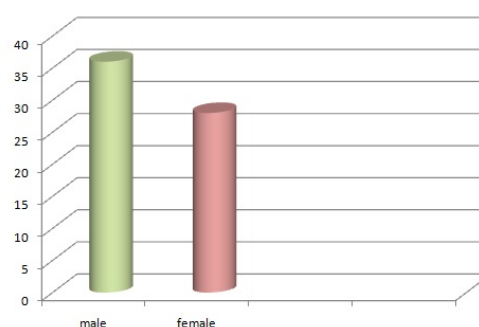


Fig.1: shows no of malees and females ssuffering from hypertensive nephropathy.

Table 2

Age in years	No of pts.
15-20	7
20-40	23
60-40	25
80-60	9

Hypertensive nephropathy is widespread in age group of 20-60 i.e adults.

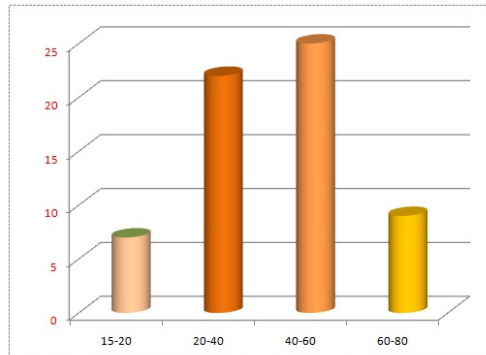


Fig.2: comprised of age group ranging 15-80 years. The following graph shows the distribution of hypertensive nephropathy in various age groups.

Table 3

Pts. With family history of hypertension	8
Pts don't have family history of hypertension	56

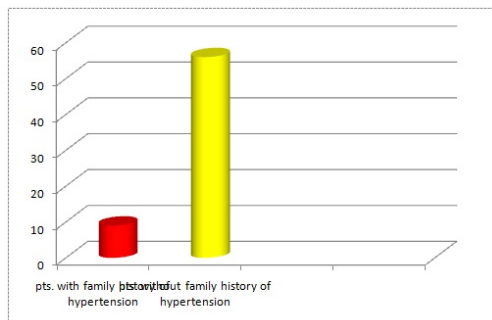


Fig.3: shows # of pts with family history of hypertension and pts. having no family history of hypertension.

Table 4

Pts. With congenital hypertension	8
Pts. Without congenital hypertension	56

Table 5

No. of pts. Under dialysis	Tim period of dialysis
18	Below 1 year.
13	1 year
9	2 years
11	3 years
3	4 years
2	5 years
2	6 years
1	7 years
1	8 years
1	9 years
3	3 years

Table 6

Pts. have complication during dialysis	46
Pts. don't have complication	17

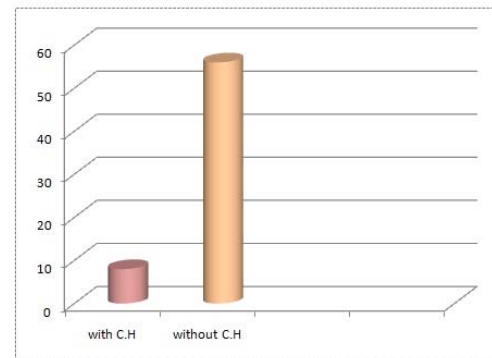


Fig.4: shows the # of patients with congenital hypertension and without congenital hypertension

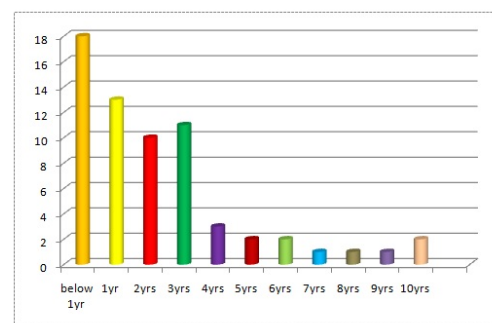


Fig.5: shows no of pts and time period of dialysis

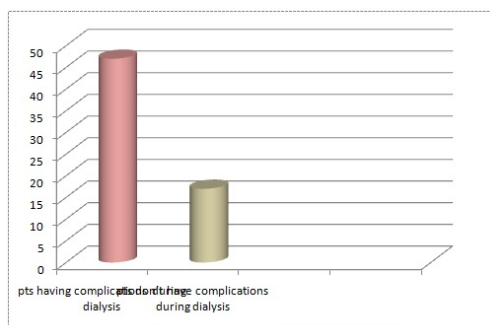


Fig.6: shows the # of pts. Having complications during dialysis and those which don't have complications.

Discussion:

Hypertensive nephropathy is a kidney disease that occurs as a result of high blood pressure this disease is characterized by the damage to the vasculature of kidneys as blood pressure increases.

There are two types of hypertensive nephropathy these are benign nephrosclerosis & malignant nephrosclerosis benign nephrosclerosis is most present in people over 6 years old while the rare malignant nephrosclerosis occurs only in 1 to 5 percent of people with hypertension.

Blood tests are needed in diagnosis of hypertensive nephropathy to determine the conditions of kidneys & their functioning this may require collection of urine for 24 hours to measure the extent of the kidney disease that is connected with high blood pressure.

The most common drugs used are Thiazide, Frusemide, Hydralazine & Diuretics these drugs can reduce the blood pressure rapidly & can save kidney function If taken immediately if worse comes to worst meaning if the kidney failure is not controlled by the conventional ways dialysis may be required. Dialysis is not a cure if a person 'S' kidneys are temporarily damaged dialysis give them a rest & chance to recover but for chronic and stage kidney disease a kidney

transplant is only the long term solution that frees the patient from dialysis without dialysis the health of such patients will further deteriorate making life miserable renal failure mostly occur in the early it is common in the later stages of hypertension if the disease is not aggressively managed early persistent hypertension also results in renal failure.

All the visited hospitals have similar setup for the treatment of renal failure patients but the dialysis machines are different. The latest one is being used in Jinnah Hospital.

In our study we took 64 patients randomly 36 male & 28 females with different age groups.

According to our study hypertensive nephropathy is more in patients age 40-60 (25-Patients) then 20-40 (22-Patients) then 60-80 (9-Patients) then 15-20 (7-Patients)

The health care team in every hospital is efficient and diligent

It provides services to patients instantly and round the clock pharmacist is integral part of the team but his role confined to inventory checking in practice he performs no role of clinical pharmacist among the three hospitals we have visited (Services, Jinnah and Myo) none have clinical pharmacist in direct interaction with patient which creates hurdle in proper management programme and proper therapeutic outcomes of therapy ultimately decreasing patient quality of life.

Conclusion:

Hypertensive nephropathy is a kidney disease that occurs as a result of high blood pressure & results in damage of kidney. Basically there are two types of hypertensive nephropathy benign & malignant. In benign there is less chance of kidney damage but in malignant aggressive ways to lower blood pressure is needed because damaging to kidney is more rapid

patient should be hospitalized & given I/V therapy to prevent kidney damage from above it is concluded that hypertensive nephropathy like most other disease can be prevented if we take active steps in guarding our health such as maintaining a proper diet, regular exercise and treatment decision should be of course be individualized based on the clinical characteristics of the patient including comorbidities as well as tolerability, personal preference and cost & elderly hypertensive patients blood pressure should be lowered gradually to avoid complications.

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