Nephrology

210. Prevalence of Cardiovascular Complications in Patients of Chronic Kidney Disease

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Aim: To know the prevalence of cardiovascular complications in patients of chronic kidney disease.

Methodology: 102 consecutive patients of chronic kidney disease were evaluated for etiology, stage of renal failure and studied for cardiovascular complications.

Results: Out of 102 patients, 62 were males and 40 females with mean age 49.68 ± 15.36; 53 (52%) patients were in stage V chronic kidney disease and 41 (40%) patients were in stage IV chronic kidney disease; 58 patients (57%) had cardiovascular complications of which 38 (37%) were males and 20 (20%) were females. Left ventricular hypertrophy (31%) and diastolic dysfunction (23%) were the commonest cardiovascular complications. Other were ischaemic heart disease (21%), congestive cardiac failure (17%), cerebrovascular accidents (7%), arrhythmia (5%), valvular heart disease (3%) and peripheral vascular disease (3%). Hypertension was the most common risk factor found in chronic kidney disease group of patients, followed by anemia, dyslipidaemia, smoking, hypoalbuminemia and diabetes mellitus in descending order.

Conclusions: Prevalence of cardiovascular complications in chronic kidney disease patients was 57% and left ventricular hypertrophy and diastolic dysfunction were common cardiovascular complications. Hypertension was the most common cardiovascular risk factor found in chronic kidney disease patients.

215. Correlation Between Serum Albumin and Common Carotid Artery Intima-Media Thickness in Patients with Chronic Kidney Disease

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Background: Cardiovascular diseases are leading causes of morbidity and mortality among chronic kidney disease patients, irrespective of their etiology and treatment modalities. They have got uremia related non-conventional cardiovascular risk factors in addition to conventional ones. The study aimed at establishing correlation between these risk factors and common carotid artery intima-media thickness (CCA-IMT), which is a well-known surrogate marker of cardiovascular diseases.

Methods: A total of 26 patients with established chronic kidney disease (CKD) and 13 subjects without any evidence of renal impairment were subjected to detail clinical evaluation with estimation of Hb%, BS (F), BUN, S.Cr, serum proteins, serum lipids, serum calcium, serum phosphate and serum Lp(a). CCA-IMT were measured with high resolution ultrasound equipped with a linear transducer of 5 Hz. Multiple regression analysis was done to find out independent predictors of IMT.

Result: Systolic BP (p < 0.001), Diastolic BP (p < 0.5), Mean arterial pressure (MAP) (p < 0.01), S. phosphate (p < 0.001) and LDL-C (p < 0.001) were significantly higher in study group. While HDL-C (p < 0.05), Hb% (p < 0.001), S. Calcium (p < 0.05), and VLDL (p < 0.05) were significantly lower, as compared to control cohort. Multiple regression analysis showed DBP (p < 0.05), MAP (p < 0.05), and S. albumin (p < 0.002) to be independent predictors of CCA-IMT.

Conclusion: Our data suggest that serum albumin is one of the non-conventional marker of cardiovascular diseases among CKD population, with added advantage of being economical, readily available, reproducible and unaffected by medications.

216. Lupus Nephritis: Clinico-Pathologic Correlations

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Objective: To grade histologically the cases of lupus nephritis and study its relationship with clinical and laboratory findings.

Material and Methods: All the patients admitted with proven SLE who had either clinical features of renal manifestations or abnormal urine microscopy/proteinuria and/or renal insufficiency were subjected for renal biopsy. The tissue was subjected for histopathological and immunofluorescence examination. Patients who were either not willing or not fit for procedure were excluded.

Observations: Out of total 26 patients included in the study, 23 were females. Age group ranged from 15 to 47 years and 17 (65%) patients were younger than 30 years. Histologically 3 patients had class 2 lupus nephritis, 4 had class 3, 17 (65%) had class 4 and 2 patients had features of class 5 lupus nephritis. Joint pain and skin rash were major extra renal clinical manifestations observed and there was no relationship found with the histological grading. Four patients had renal insufficiency (1 in class 3 and 3 in class 4). One patient in class 3 and 7 in class 4 were found to be hypertensives. The average proteinuria was < 1.0 gm in patients of class 2, about 1.0 gm in patients of class 3 and 3.6 gms in class 4 patients. 2 patients of class 5 had 6.2 and 8.0 gms of proteinuria. All patients in class 4 had active urinary sediment. Hypoaalbuminemia was not evident in class 2 patients while it was becoming more prominent as we go up in histological grading. Average Hb was low (9.0 gms%) in patients of class 4 compared to class 2 and 3. All patients had low complement levels but no definite relationship could be established between the degree of reduction and the histological grading.

Conclusion: Class 4 lupus nephritis was the commonest histologic type and the very high percentage (65%) observed may be because of the study being done in a tertiary care centre where more serious cases are likely to come. The class 4 group having more incidence of renal failure, hypertension and active urinary sediment concurs with available literature. However as there is no definite relationship between extrarenal manifestations and the degree of renal involvement, one should seriously consider renal biopsy in otherwise quiescent SLE cases to grade renal lesion histologically, as the addition of immunosuppressives matess a lot in class 3 or 4 patients.
217. Evaluation of Efficacy of Low Dose Recombinant Human Erythropoietin in Combination with Androgen Therapy in Anaemia of Chronic Renal Failure

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The present study was conducted in 45 adult male patients with anaemia of chronic renal failure. Patients were randomized into three groups (A, B and C) of 15 patients each. Group A patients received only erythropoietin, Group B patients received nandrolone deconate along with erythropoietin and Group C patients were given nandrolone deconate alone for a duration of 3 months. The dose of erythropoietin was 2000 IU subcutaneously twice a week and that of nandrolone deconate was 100 mg once a week deep intramuscular injection. Patients in all the three groups were administered 100 mg elemental iron in intravenous infusion every fortnight. All the relevant haematological and renal parameters were studied monthly an ferrokinetic studies were done at the beginning and at 3 months.

There was a statistically significant rise in haemoglobin, packed cell volume and reticulocyte count in all the three groups. The rise in haemoglobin in group B was more marked followed by group A and Group C. The patients above 50 years, who received nandrolone deconate (Group B and C), showed better response of rise in haemoglobin as compared to those below 50 years in the same group. The percentage rise in haemoglobin in group B patients, below 50 years was 51.06% while in patients above 50 years it was 62.52% and in group C (Nandrolone deconate alone) it was 10.9% and 17.20% respectively. None of the patients had any side effects of therapy.

It can be concluded that androgens, while not generally acknowledged to be a part of standard regimen in anaemia of chronic renal failure, may need to be considered in patients above 50 years of age and their combination with low dose erythropoietin would make the treatment more cost effective in anaemia of chronic renal failure.

220. Study of Autonomic and Peripheral Neuropathy in Non-Diabetic End Stage Renal Disease

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Aims : To determine, both clinically and electrophysiologically, the prevalence and distribution of both autonomic and peripheral neuropathy in non-diabetic end-stage renal disease (ESRD) patients and also to find out the relationship between autonomic and sensorimotor neuropathy, if any.

Methods : 42 patients of non-diabetic ESRD (24-hypertension, 4-polycystic disease, 5-chronic glomerulonephritis, 2-chronic pyelonephritis, 3-collagen vascular disease, 4-undetermined etiology) were included in this study. Excluded were those patients with clinical and laboratory evidence of other causes of neuropathy including diabetes, vitamin B12 deficiency, thiamine deficiency, HIV infection, familial, toxic, paraneoplastic neuropathy, history of cardiac disease, abnormal ECG, those on alpha or beta blockers, alcoholics and those with altered sensorium. Detailed history was taken regarding presence of autonomic symptoms, tingling, numbness or weakness of the limbs. Through neurological examination was performed. Autonomic dysfunction was studied by bedside cardiovascular reflexes.

Table 1: Assessment of cardiovascular autonomic reflexes

<table>
<thead>
<tr>
<th>Test</th>
<th>Normal response</th>
<th>Abnormal response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart rate response to deep breathing</td>
<td>&gt; 15/min</td>
<td>&lt; 10/min</td>
</tr>
<tr>
<td>Heart rate response to Valsalva maneuver - longest R-R / shortest R-R</td>
<td>&gt; 1.2</td>
<td>&lt; 1.1</td>
</tr>
<tr>
<td>Heart rate response to standing up - 30:15 ratio</td>
<td>&gt; 1.04</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>BP response to standing up</td>
<td>&lt; 10</td>
<td>&gt; 20</td>
</tr>
<tr>
<td>BP response to sustained hand grip</td>
<td>&gt; 16</td>
<td>&lt; 10</td>
</tr>
</tbody>
</table>

Sensory motor neuropathy was diagnosed by clinical examination and confirmed by nerve conduction study of right sural, both peroneal, both ulnar and median nerves using standard laboratory techniques.

Observations : Out of total 42 patients, 78.57% had duration of disease 6 months after diagnosis. 38.1% was on maintenance hemodialysis. Distribution of autonomic symptoms was : spontaneous palpitations in 26.2%, postural dizziness in 23.8%, impotence in 49.47%, gastric fullness in 42.85%, sweat disturbances in 7.14%. Not a single patient had loss of consciousness or nocturnal diarrhea. Heart rate response to deep breathing was abnormal in 26.2%, while response to valsalva was abnormal in 21.42%. 30:15 heart beat ratio was found to be abnormal in 21.42%. Abnormal fall in systolic BP on standing was obtained in 16.66%, while failure to rise in DBP with sustained handgrip was found in 4.76%, 80% of those with autonomic involvement had also evidence of somatic neuropathy, while 83.3% with peripheral neuropathy had associated autonomic neuropathy. These was no significant difference in prevalence an severity of both neuropathies between etiological groups.

Conclusion : Autonomic and somtosensory dysfunction are present in association in significant percentage of non-diabetic ESRD patients. This may have some bearing on drug therapy for associated/concomitant illness.

225. CRF, Its Mortality and Dialysis Requirement - A Retrospective Study

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Objectives : 1. Study the clinical profile and renal parameters.
2. To predict the mortality and the need for dialysis based on clinical and renal parameters.

Methodology : Retrospective study of 100 patients of both ARF/CRF was conducted at VIMS Bellary. Patients below 14 yrs were excluded from the study. Relevant clinical parameters like breathlessness, vomiting, pallor, edema were noted. Renal parameters like RBS, urea, creatinine Na+, K+, HB% were taken down. Underlying causes and risk factors like HTN/DM were studied. These parameters were compared to know the mortality and the need for dialysis.

Results : CRF comprised 85% and ARF 15%. The most common presentation was breathlessness (46%) and the most common sign was pallor (33%). Hypertension (58%) was the most common underlying risk factor. Creatinine was raised in 32%, K+ (16%), Na+ (5.5%) RBS (13%) and patients with HB% < 10 gm were (75%). 49% of the patients were subjected to dialysis and out of
these creatinine was raised present in (34%) K+ (12%) Na+ (2%) RBS > 200 mg (10%). Overall mortality was 10% mainly seen in patients with raised K+ (33%) and creatinine (33%) and patients above 50 yrs (60%). Among these 8 were CRF and 2 were ARF patients. Hypertensives subjected to dialysis were (40%) and diabetics (56%).

Conclusion: Clinical study showed that the requirement of dialysis was higher in patients with increased creatinine (34%) K+ (12%) and in patients with hypertension (40%) and diabetes (56%). The mortality was also higher in these groups of patients and also in patients older than 50 yrs (60%).

228. Prospective Study of Evaluation of Homocysteine, Lp(a) and Lipid Profile in Renal Transplant Patients

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Introduction: Renal transplantation (RT) is currently the best option for successful rehabilitation of patients of end-stage renal disease (ESRD). Even after RT these patients have unacceptably high cardiovascular morbidity and mortality, the pathogenesis of which involves various atherogenic factors.

Summary of Results: In 27 renal transplant patients we studied homocysteine levels, serum Lp(a) and lipid profile along with other clinical non-invasive cardiac tests to validate graft function and cardiac complications if any. All the parameters were measured just before transplantation (0 months), 6 months, 1 year and 2 years after transplantation. All lipid lowering measures including statins were instituted wherever indicated. Mean age of patients were 44.3 yrs ± 6.6 (ranged 27-55 years). Male: female ratio was 3.3:1. Serum cholesterol was 180.9 ± 41 mg/dl at 0 mth, 201.8 at 6 mths and 187 at the end of 1 years (p=0.328). Low density lipoprotein (LDL) was 106, 113,105 mg/dl, High density lipoprotein (HDL) was 50.2, 47.2 and 45 mg/dl, (p=0.280). Apolipoprotein A1 (Apo A1) was 126.9, 137.4 and 126.8 mg/dl, and Apolipoprotein B1 (Apo B1) was 126.9, 126.8 and 108.8 mg/dl, at 0,6,12 mth respectively. LDL/HDL ratio was 2.14, 2.38, 1.52 (p=0.345) and cholesterol/HDL ratio was 3.79, 3.96 and 4.23 (p=0.350). Apo A1/B1 was 1.16, 1.16 and 1.32 (p=0.525) at 0,6,12 mth respectively. Serum Lp (a) was 29.06, 28.66 and 34.9 mg/dl, and homocysteine level was 13.3, 12.6 and 20.0 umol/l at 0,6,12 mth respectively. Post-transplant patients are exposed to Cyclosporin, Prednisolone, beta blockers and other drugs known to cause dyslipidemias. Additionally they are hypertensive, often obese, have subnormal renal function and may develop post-transplant diabetes mellitus (PTDM).

Conclusion: In post-transplant period out patients showed a tendency of rising cholesterol, VLDL, triglyceride, homocysteine, Lp(a) and a fall in HDL, cholesterol/HDL ratio and LDL/HDL ratio. Lipid lowering measures along with statins, folic acid were helpful in lowering the atherogenic lipid profile and raised homocysteine levels towards normal. No significant drug interaction was noted with statins and cyclosporin.

678. Spectrum of Renal Diseases Among Admitted Patients at a Tertiary Care Hospital in Himachal Pradesh

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Study design: Prospective study.

Setting: Admitted patients, with renal diseases or requiring nephrology consultation for renal problems at IGMC, Shimla.


Results: A total of 470 patients were admitted with renal diseases or required nephrology consultation for renal problems. Mean age of the patients was 50.3 ± 18.8 years and 61.7% of these were male. ARF was seen in 124 (26.4%); CRF in 292 (62.1%), 65 (22.3%) of them had acute on CRF; Nephrotic syndrome 34 (7.2%); Nephritic syndrome 8 (1.7%); Fluid-Electrolyte disorders and UTI 6 (1.3%) patients each. Causes of which were as under:

172 (36.6%) patients were treated with acute dialysis (HD or PD followed by HD),

51 (41.1%) patients with ARF and 121 (41.4%) patients with CRF required dialysis. 5 patients were initiated on CAPD and 3 patients were already on CAPD.

Conclusions: 1. CRF, ARF and nephrotic syndrome were the common renal syndromes seen. CRF was the most common clinical presentation. 2. Etiologies of CRF in order of frequency were: CIN, DN, CGN, HTN and ADPKD. 3. CIN was the most common (41.1%) etiology of CRF in our study. In 41% of cases it was as a result of obstructive uropathy. 4. In addition to volume depletion and sepsis, nephrotoxins were an important cause of acute and acute on CRF. 5. MCD and MGN were most common causes of nephrotic syndrome. 6. About 42% of admitted patients with renal failure required acute dialysis.

*Adjudged Best Papers and got an award of Rs. 1000/- each from Chairman Scientific Committee, Diamond APICON 2005.