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Grindley MF: Manual of histologic and special staining Nephrologic, Elammarion, Paris, 1965.

ABBREVIATIONS

Angstrom	A
body surface area	BSA
body weight	body wt.
centimeter	cm
celius	C
complement components	C1,C2,C3
Correlation coefficient	r
creatinine clearance	Ccr.
curie (s)	Ci
Equivalents	Eq
Fahrenheit	F

Glomerular fitration rate	GFR
gram (s)	g
Grams per cent	g/100mi
half-time	tf1/2
hour (s)	hr
inch	inch
International Unit (s)	IU
Intramuscular	im.
intraperioneal	i.p.
intravenous	i.v.
inulin clearance	Cln
Kilogram (s)	Kg
liter (s)	L
meter (s) or milli	m
microns (s) or micro	µ
milligram (s) per cent	mg/100ml
minute (s)	min
molar	M
mole (s)	mole (s)
Molecular weight	molwt
nanogram (s) (millimicrogram)	ng
nanoliter (s) (millimicroliter)	nl
normal (concentration)	N
not significant	NS
optical density	OD
osmole (s)	Osm
probability	P
second (s)	sec
standard deviation	SD
standard error	SE
standard error of the mean	SEM
ultraviolet	UV
unit (s)	U
volt	V

MANUSCRIPTS SHOULD BE SUBMITTED

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Prof. Harun-Ur-Rashid Ph. D, FCPS, FRCP

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Original Articles

Diabetic Nephropathy (DN) Patients Are More Solvent Than Chronic Glomerulonephritis (CGN) Patients

Pradip Kumar Dutta[1], Dipti Chowdhury[1], Emran Bin Yunus[1], Abul Kashem[1], Md. Ifthiker Hossain Khan[2]

Summary:

Socioeconomic status (SES) is very important in planning the treatment of Chronic Kidney disease (CKD) especially in End stage renal Disease (ESRD). This prospective study was done to determine SES and its variation in population of diabetic nephropathy (DN) and Chronic glomerulonephritis (CGN) admitted in Nephrology department of a medical college hospital. Total 146 CKD patients (DN- 79, CGN -67) were included with mean age 46± 16 years. The SES was determined by 5 factors: standard of living (housing, water supply and sanitation), literacy level and total family income. Literacy level was assessed in three groups – Illiterate, up to secondary School Certificate (SSC) and above SSC. Total family income was assessed by the amount of monthly income from sources like service, farming, business, house rent, etc of the patient himself or other family members. Literacy level, sanitation and source of drinking water supply were similar in two groups. Apparently more DN patients were found to live in pukka house (DN vs. CGN - 45% vs. 22%) and used sanitary latrine (71% vs. 60%) reflecting their higher economic solvency. Mean monthly family income of DN group was higher ($215± 2 vs. $121±11, p <0.001). In conclusion, patients of end stage renal disease (ESRD) due to DN have better economic status than CGN group despite similar educational and living standard. Yet total family income of both groups falls short of purchasing any form of permanent renal replacement therapy (RRT).

Key wards: diabetic nephropathy, chronic glomerulonephritis, socioeconomic status, renal replacement therapy.

(Bang. Renal J. 2009; 28(2): 25-28)

Introduction:

Socio-economic status may be associated with aetiology or management option of the patient[1]. Very few reports in renal arena are available with regard to socio economic status (SES) of end stage renal disease (ESRD) patients. Chronic kidney disease is one of chronic debilitating condition associated with profound morbidity & mortality. Role of SES as a factor for pathological progression of CKD is difficult to prove. However low SES could be a factor preventing access to better health care facility [2, 3,4].

Most chronic kidney disease (CKD) patients in Nephrology Unit (NU) of Chittagong medical college hospital (CMCH) are either chronic glomerulonephritis (CGN) or diabetic nephropathy (DN); but DN group exceeds CGN group in availing dialysis facility. So far study addressing the SES of CKD patients in Bangladesh is scarce. The aim of this study was to compare the SES of end stage renal disease (ESRD) patients with DN and CGN to identify the more solvent group.

Material and Methods:

It was a cross sectional study enrolling from end stage renal disease (ESRD) patients admitted in Chittagong medical college hospital (CMCH) throughout the year 2007. Hypertensive nephropathy, obstructive nephropathy, heredo-familial renal disease like polycystic kidney disease, renal disease with malignancy and renal involvement with systemic disease like systemic lupus erythematosus, vasculitis were excluded.

Diagnosis of DN and CGN was verified & confirmed during the admission period by history, physical examination and relevant laboratory investigations. The study subjects were interviewed with a prefixed questionnaire which included etiology of CKD, educational qualification, occupation, monthly income, particulars of family members with their educational background, occupation and monthly income; housing, water supply and sanitation of the family. Literacy level was assessed in three groups – Illiterate (cannot sign name), up to SSC (secondary school certificate) and above SSC. Their standard of living was assessed by their housing, water supply and sanitation. Economic status was assessed by the amount of monthly family income from various sources like service, farming, business, house rent & other sources of the patient himself or other family members. We didn't classify SES into poor, average or affluent as other studies instead we compared total family income of two groups.[5, 6]

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All data were analyzed by SPSS statistical software. Continuous data are reported as mean with ±SD. Prevalence is presented as percentages. Categorical variables were compared by Chi-square test and noncataegorial variables were compared by Z- test. P value < 0.05 was taken as statistically significant. Departmental ethical committee approved the study.

Case definition of DN: diabetes >5 years; urinary total Protein > 500mg/ 24 hours; presence of diabetic retinopathy and presence of any grade of renal failure

Case definition of CGN: albuminuria/haematuria ³ 3 months[7], absence of diabetes/ evidence of obstructive Uropathy [8] , recent history of hypertension [8] , biopsy-proven or past history and clinical evidence of GN [8].

Results

Among 146 patients, 99 (68%) were male and 47 (32%) were female. Mean age was 46.2 ± 16.4 years. There were 54% (n=79) patients in CGN group and 46 % (n=67) in DN group. Though there is no significant difference of male: female ratio in CGN (47:32) but there was significant male preponderance in DN group (52:17, p <0.05). The CGN patients were younger than DN ones (41±17 vs. 54±12, years; p< 0.05).

The literacy level showed no significant variation between DN and CGN (Table 1). Though there was no statistical significance, apparently more patients of DN group (44.78 %) lived in Pakka house than CGN group (22.5%) (Table 2). Nearly 85% of CGN group and 83% of DN group used tube well for drinking water (Table 3). From both groups 12% used water from municipal supply. The rest collected drinking water from ponds. There was no statistical variation in water supply. Open latrine was used by 20% patients of both groups and sanitary latrine was used by 60% of CGN and 71% of DN group. When compared between the groups, these variations were not significant (Table 4). There was significant difference between sanitary and non-sanitary latrine users proportion within the DN patients (72 vs. 28%, p <0.001) but not in CGN subjects (61 vs. 38%).

Both groups of patients were dependant on income of other members of the family; almost half of all patients lived through family sources. However DN group belonged to a higher economic stratum (DN vs. CGN was $215± 2 vs. $121±11/ month, p<0. 001).

Table-I

Status of literacy in two groups of CKD subjects

Literacy level	CGN n (%)	DN n (%)	Significance
Illiterate (ill)	25 (32)	19(29)	NS
Up to SSC (lit)	37(48)	28(43)	NS
Above SSC(lit)	17(19)	18(28)	NS

Table-II

Housing status of two groups of CKD subjects

Housing types	CGNN (%)	DNN (%)	significance
Pukka(p)	18 (23)	30 (44)	NS
Kuncha(k)	48 (61)	28 (41)	NS
Semi- pukka	12 (15)	8 (11)	NS
Others	1(1)	1(1)	NS

Note: Pakka: Brick built wall and concrete roof; Semi-pukka: brick-built wall with tin shade; Kuncha: clay made with tin shade and others: fenced wall with tin shade

Table-III

Source of drinking water supply in two groups of CKD subjects

Source	CGNN (%)	DN N (%)	Significance
Tube-well	68 (85)	56(83)	NS
Municipality water supply	9 (12)	8(11)	NS
Ponds	2(2)	3(4)	NS

Table-IV

Sanitation status in two groups of CKD subjects

Types of sanitation	CGN N (%)	DN N (%)	significance
Sanitary Latrine	48 (61)	48 (72)	NS
Open Latrine	11 (14)	11(16)	NS
Ring Latrine	19 (24)	7 (10)	NS
Others	1 (1)	1 (2)	NS

Note: sanitary latrine- concrete ring slab in a deep hole with water seal; open latrine- open hole; ring latrine - ring slab without water seal and others unspecified

Table-V

Source of income in two groups of CKD subjects

Income source	CGN N (%)	DN N (%)	Significance
I F M	41(51)	26(38)	NS
Service	15(18)	11(16)	NS
Farming	4(5)	7(10)	NS
Business	6 (7)	7 (10)	NS
House rent	1(1)	1(1)	NS
MTS	7(8)	10(14)	NS
Others	5(7)	5(7)	NS

Note: IFM- income of other family members and MTS- more than one source

Discussion

In this study included patients were from the commonest causes of CKD due to DN and CGN[1].In DN male superseded female (3.5: 1) which correlate to other studies in Caucasians and non-Caucasians .[9,10] Only one-third of both CGN and DN were illiterate. Others were either at SSC level or more. So no significant difference in the literacy level in both groups was found. Probably economic solvency had no influence on literacy level in both of our subjects.

It was shown in other studies in Mexican urban population that literate individuals with CKD were more compliant to therapy as well as subjected to less morbidity.[11,12] Analysis of housing status revealed that in CGN group 22% lived in pukka house and 61% lived in kuncha house where as in DN group 44 % lived in Pukka house and 41% lived in kuncha house. this indicated that DN patients were more economically solvent than CGN patients. There was no significant difference in water supply and sanitation between the two groups. But DN patients used more sanitary latrine.

As patients belonged to periphery of urban areas and number of population of this study was small and non-homogenous, it was difficult to draw a conclusion. This signifies that the overall sanitation and housing in all groups is still not satisfactory like other developing nations. Study of economic status revealed that mean monthly family income of DN group was higher than CGN group. Other studies also showed that diabetic patients belong to more affluent group for the same geographic area as in Kerala in India and African American in four US communities [13,14]. However in our setup the approximate cost of haemodialysis/ month (three sessions / week) is $143 and transplantation needs $5700 gross with $143 / month for post transplantation maintenance therapy. Both the modalities are costly to afford for a self paying individual or the family, which necessitates the role of charitable organization to support nephrological services[15].

In conclusion, it may be stated that even in Bangladesh, end stage renal disease(ESRD) due to diabetic nephropathy have higher economic status than CGN patients though all have similar educational level and living standard. Even the total family income of ESRD patients is not sufficient to provide renal replacement therapy. Again Medicare service is not available here. So supports from nephrology social worker and allied groups are required to overcome the situation.

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The Pattern of Glomerulonephritis in a Study of Kidney Biopsy Proven Cases in Mitford Hospital

Nasir Ahmed[1], Md. Mohsin[2], Nurul Huda[3]

Summary: ***Kidney biopsy is an important tool for the diagnosis of kidney disease. In this retrospective study a number of kidney biopsy cases were evaluated to find out the pattern of glomerulonephritis (GN). We selected kidney biopsy cases in Nephrology department of Mitford Hospital during the period of 2008-2009. Kidney tissue was collected in hospitalized patients and sent for histopathological examination. Among 54 Kidney biopsy cases, male and female were 24 (44%) and 30 (56%) respectively. All were adults, age range from 18-65 years. Commonest form of GN was DMPGN (Diffuse Mesangial Proliferative Glomerulonephritis) (35.18%). Commonest primary GN was DMPGN (41%) and secondary was lupus nephritis (LN) (80%). Indication for biopsy was nephrotic syndrome in majority (66.66%). Lupus nephritis was significantly higher in younger patients (d"30 years) than older ones (28% vs. 3.4%, P<0.05). Secondary GN was significantly higher in female than in male patients, (80% vs. 20%, P<0.05). This study shows that DMPGN is the commonest form of primary GN and LN is the commonest form of secondary GN.***

Key words: Glomerulonephritis, Diffuse Mesangial Proliferative Lupus Nephritis.

(Bang. Renal J. 2009; 28(2): 29-31)

Intoduction:

Percutaneous renal biopsy is an essential tool to establish histological diagnosis, treatment and prognosis of renal disease.[1] Since its introduction in 1951[2] the procedure is now used widely to diagnose renal diseases. Glomerulonephritis is the commonest cause of kidney diseases in Bangladesh [3]. This study was aimed to know the indications of kidney biopsy and to know the pattern of renal disease in a tertiary renal care hospital.

Materials and Methods

We selected the patients who underwent kidney biopsy in Sir Salimullah Medical College and Mitford Hospital from 2008-2009. The indications of biopsy were nephrotic syndrome, nephritic syndrome, proteinuria, Lupus nephritsis, isolated haematuria etc. Kidney biopsy was done by 14G "Trucut Kidney Biopsy Needle" and two pieces of Kidney tissue was collected from each patient. Tissues were sent for histopathological examination under light microscopy and direct immunofluorescence microscopy (DIF).All biopsy was done under local anesthesia and in hospitalized indoor patients. All patients were kept in complete bed rest for 24 hours after the biopsy procedure.

Patients were excluded to do biopsy if they had bleeding problems, uncontrolled hypertension, single Kidney, morbid obesity, small contracted Kidney <8 cm in length or non cooperative patients.

Statistics: The qualitative data were compared by chi-square test and categorical data by t-test.P< 0.05 was taken as significant.

Results:

The indication of biopsy was nephrotic syndrome (n=36, 67%), nephritic syndrome (n=8, 15%), lupus nephritis (n=8, 15%) and isolated hematuria (n=2, 4%).Biopsy report shows various types of glomerulonephritis (GN) affecting the Kidneys. Diffuse mesangial prolifentive glomerulo-nephritis (DMPGN) was the commonest form of GN in 19 (35%) and then focal and segmental proliferative (FSGS) in 10 (18%) and others (Table 1).

Number of primary GN cases was more than secondary GN. Among primary GN, commonest from was DMPGN, 18 (41%) (Table 2). Commonest etiology of secondary GN was lupus nephritis (n=8, 80%) followed by Ca stomach and hepatitis B virus one each.

Age of the patients varied from 18-65 years. Among them younger patients (<30 years) was 25 (46%) and older patients >30 years was 29 (57%). There was no significant difference in the occurrence of GN in these two groups of patients except that Lupus nephritis was found significantly higher in younger patients than in older patients (28% vs. 3.4%, p<0.05).

There were 24 (44.45%) male and 30 (55.56%) female patients. On analysis, it was observed that GN was equally

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distributed in male and female patients except Lupus nephritis was fond only in female patients, (n=8, 100%). Female were more affected with secondary GN than male (80% vs.20%, p<0.05). (Table 3).

Table -I

Pattern of Glomerulonephritis in all patients (n=54)

GN	No (%)
DMPGN	19 (35)
FSGS	10 (18)
MCD	8 (15)
LN	8 (15)
MN	5 (9)
IgAN	2 (4)
Scl N	2 (4)

Note:GN = Glomerulonephritis; DMPG = Diffuse Mesangial Proliferative Glomerulonephritis, FSGS = Focal and Segmental Glomerul sclerous, MCD = Minimal Change disease; LN = Lupus Nephritis; MN = Membranous Nephropathy, Scl N = Sclerosing Nephritis, IgAN = IgA Nephritis.

Table-II

Distribution of primary Glomerulonephritis (n=44)

GN	No (%)
DMPGN	18 (40.90)
FSGS	10 (22.72)
MCD	8 (18.18)
MN	4 (9.09)
IgAN	2 (4.54)
SclN	2 (4.54)

Table-III

Pattern of GN according to age cutt-offs.

Type of GN	< 30 years	> 30 years	P-value
DMPGN	8 (32%)	11 (38%)	NS
LN	7 (28%)	1 (3%)	p<0.05
FSGS	4 (16%)	6 (21%)	NS
MCD	4 (16%)	4 (14%)	NS
IgA N	2 (8%)	0 (0%)	NS
SclN	0 (%)	2 (7%)	NS
MN	0 (%)	5 (17%)	NS
	25 (100%)	29 (100%)	

Discussion

Kidney biopsy is a fundamental diagnostic technique in clinical Nephrology.Our study showed that commonest indication for kidney biopsy was nephrotic syndrome. An Indian multicenter large scale study showed that the commonest indication for Kidney biopsy was nephrotic syndrome (65%), similar to our study[4]. Report from Thailand showed nephrotic syndrome is the commonest indication followed by lupus nephritis[5]. In Egypt common indication for kidney biopsy is nephrotic syndrome followed by sub-nephroitc proteinuria which is also very similar to our study[6]. Other reports published from Iran[7] and Dakar[8] showed similar results.

Commonest form of GN in our study was DMPGN (35%). This is similar to the large series of renal data from India where DMPGN was the commonest form of GN[4]. But reports from other countries show a different result. In Australia[9], Hong Kong[10] and China[11], commonest form of GN is IgA nephropathy. On the other hand FSGS is the leading GN in India[12] and DMPGN is second common GN in Iraq[13] and China[11].

Primary and Secondary GN was 81% and 19% respectively in our study. This is similar to many of other studies. In Indian study primary GN is 71% and secondary GN 29% which is closer to our study. Chen *et al* reported that primary and secondary GN is 71% and 23% respectively in Chinese patients –similar to our findings [11]. Report from Bahrain shows primary and secondary GN is 66% and 34% respectively [14]. Similarly Ikdam *et al* reported that primary and secondary GN is 86% and 11% respectively in their study [13].

After DMPGN, FSGS was the commoner form of GN in our study (18%). Indian study, as reported by Narasingham et al, showed FSGS 17%, which is very similar to our report. Papers from Bahrain shows FSGS is the second most common form of GN, accounting for 24% of cases[14]. But as mentioned earlier FSGS is the leading GN in India and Iraq. Hass *et al* reported that incidence of primary FSGS increases from less than 10% to about 25% of adult nephropnthy over a period of 20 years [15]. D Agnti mentioned that the prevalence of FSGS among patients with GN varied from 2.5% to 18.7% of renal biopsy cases [16].

In our study lupus nephritis was the leading form (80%) of secondary GN.Similar findings was also reported in China, India, Iraq and Thailand [11,4,1,5]. Though Lupus nephritis is rare in some parts of India (Kerala-8.2%) and Bahrain (39%) [12, 14].

IgA Nephropathy is contributing only 3.7% of GN in our study, though most of the study shows that it is the leading form of GN in South East Asia and China. IgA nephropathy is the most common form of primary GN in Asia accounting for upto 30 - 40% of all biopsies, 20% in Europe and 10% for all biopsies performed for glomerular disease in North America[17]. The prevalence of IgA nephropathy is very low in this study and this may be due to small sample size

This study shows that nephrotic syndrome is the main indication for renal biopsy. Diffuse mesangial proliferative glomerulonephritis (DMPGN) is the commonest form of primary GN and lupus nephritis is the commonest secondary GN in our patients. As our sample size was small, study on larger sample needs to be performed to reevaluate these findings.

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Review Article

Simple Renal Cysts: Clinical Perspectives

Md. Shahidul Islam

Summay:

The availability and use of diagnostic ultrasonography or computed tomography has led to frequent detection of asymptomatic renal cysts. The vast majority of these are simple cysts that are usually unilateral and solitary with well-defined structural and imaging features and whose occurrence and number, increase with age. Simple cysts are asymtomatic, except when complications such as hemorrhage, infection, or rupture lead into the development of complex cysts with calcification, demarcation irregularities, and multilobularity. The diagnostic challenges that cysts present are in differentiation of the less common complicated complex cysts from those associated with malignancy and when numerous the possible heralding of genetic or acquired multicystic diseases of the kidney.

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Cysts are the most common space-occupying lesions of kidney. Whereas their presence is mentioned in the older literature and their pathogenesis discussed as far back as the 19th century, it is only with the arrival of noninvasive methods of abdominal imaging over the past 50 years that their clinical importance has grown. Technical advances in imaging, accrued expertise in their use and interpretation, and the expanding but varied populations studied over the years make it difficult to compare adequately published reports over time.

A turning point in this evolution was a 1964 classification of renal cystic disease on the basis of microdissection of kidney that localized cysts to specific nephron segments and classified them broadly as hereditary, nonhereditary, or acquried[1]. Subsequent clinical, morphologic, and radiologic observations have clarified and expanded the field of renal cystic diseases[2-4]. Major advances in understanding inherited forms of cystic disease particularly autosomal dominant polycystic kidney disease, provide compeling evidence for the role of genetics and epithelial cilia in the formation of cysts.[5-6]

The nonhereditary forms of cystic lesions have received attention at a time when widespread use of abdominal imaging has increased their detection and refined their diagnosis in general, particularly the simle cyst. Much of attention on the latter has focused on their radiologic diagnosis and indications for surgical intervention. Recent evidence suggests addtional linkages and problems such as their association with hypertension, kidney size, and renal function[7-11].

Simple cysts are usually unilateral and solitary lesions with well-defined features[2-4]. Their importance stems from their increased detection in aging populations with widespread use of abdominal ultrasonography and computed tomography (CT). The diagnostic challenges they present is their differentiation form the atypical features of the less common complex cysts associated with malignancy and, when present in increased numbers, their evaluation as an early manifestation of a genetic or acquired multicystic disorder.

A distinct characteristic of simple cysts is their increased occurrence with aging. Early autopsy studies reported almost half of individuals older than 50 yr have one or more renal cysts[12]. One perpetuated notion from microdissection is that they originate from diverticulae of the distal convoluted tubules or collecting ducts and increase with age.[13] This remains an unexplored and unsubstantiated area.

Simple cysts may be present at birth. ultrasonography on approximately 30, 000 fetuses in succession revealed an incidence of 0.09%, in most of whom the cysts resolved by birth[14]. Only two of them persisted as simple benign cysts and in a third case heralded a unilateral multicystic dysplastic kidney. Between birth and 20 yr of age, the occurrence of new cysts is very rare but thereafter begins to increase in frequency, with an increased male-to female ratio of approximately 2:1 in some studies[7-11].

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The reported overall prevalence of simple cyst is variable. Depending on the population and method of study, reported prevalences from 5 to 41% but are likely in the range of 7 to 10%[6-8]. Older autopsy studies reported their presence in 3 to 5% of cases [15].

Simple cysts are discrete lesions within the kidney that are typically cortical, extending outside the parenchyma and distorting the renal contour. They are oval or circular in shape and have a distinct, sharply defined outline. The cyst wall is characteristically smooth, transparent, avascular, yellowish or bluish white in color, and formed by a thin layer of fibrous tissue lined by a single layer of flattened or cuboidal epithelia. They are filled with a homogeneous transudate like, clear or straw-colored fluid of low viscosity, with a radiodensity similar to water of -10 to 20

Hounsfield units (HU)[3]. Approximately 70 to 80% are solitary, unilateral, and cortical[2-4]. As is the case of their occurrence, their number in the same kidney and laterality increase with age, with more than one cyst reported in half and bilateral cysts in one third of older individuals.[7-11] Simple cysts are variable in size on initial detection but increase in size over time in aproximately one fourth of cases, particularly in younger individuals, in whom they are more likely to enlarge.[4-8] In general, the increase in size is slow, estimated rate of 1.6 mm or aproximately 4 to 5% per year, and may double the original size over 10 yr. In follow-up studies, the increase in size was more evident during the first 2 to 3 years after detection and to stabilize thereafter. Multiloculated and bilateral cysts are more likely to increase in size[8].

Risk factors incriminated in the occurrence of simple cysts are serum creatinine, smoking and hypertension[3-7]; however, these associations may well be coincidental given the retrospective nature of the reported studies, with variable reasons for diagnostic referral of differing cohorts, with age being an overarching confounder of all reported associations[8].

As a rule, simple cysts are an asymptomatic incidental finding on abdominal imaging. Occasionally they become symptomatic and may present with flank pain, abdominal discomfort, a palpable mass, or hematuria; as a result of complications; or consequent to an enlarging cyst.

A large cyst may cause obstructive symptoms, particularly when proximal to or encompassing the renal pelvis. Clinical symptoms are more common with neoplasms than simple cysts, and the onset of symptoms should always raise the possibility of an associated malignancy and the need for additional diagnostic studies.[2-4]

Complications are rare with a reported range of 2 to 4%[2-4]. The Principal complications are hemorrhage, infection, or rupture. Hemorrhage may occur in a preexisting simple cyst, or a cyst may have traumatic hemorrhage within the kidney parenchyma. Approximately 6% of simple cysts are complicated by hemorrhage, usually as a result of trauma, enlargement, or bleeding diathesis. Acute hemorrhage increases the attenuation value of a cyts (70 to 90 HU), but as blood liquefies and organizes, attenuation values decrease. Hyperdense, well-defined, homogeneous cysts with an attenuation of 50 to 100 HU, that does not enhance, usually represent acute hemorrhage[2]. As hemorrhagic cysts resolve, they develop residual calcification in a central pattern or within the cyst wall that becomes thickened and develops septae with the cyst becoming multilocular or multilobular, essentially acquiring the features of a complex cyst. As such, hemorrhagic cysts will require careful evaluation to rule out a malignancy and to determine the need for surgical intervention.[2-4]

As with hemorrhage, simple cysts may become infected or a renal abscess may develop into a complex cyst[2-4]. The wall of infected cysts is often thickened markedly and calcified occasionally. Attenuation is increased and may be nonhomogeneous but is not enhanced after dye.

Alternatively, this is one situation in which cyst puncture and aspiration can be diagnostic and either circumvent the need for surgery or limit it to drainage of an infected cyst.[4,16]

Table-I

Criteria used in the Bosniak renal cyst classification system

Stage	Cyst Wall	Septae	Calcification	Enhancement
I	Hairline thin	No	No	No
II	Minimal regular thickening	Few, hairline thin	Smooth, hairline thin	No
IIF[a]	Minimal regular thickening	Multiple, minimal smooth thickening	Thick, nodular	No
III	Irregular thickening	Measurably thick, irregular	Thick, nodular irregular	Yes
IV	Gross irregular thickening tissue and cyst	Irregular gross thickening	Thick, Nodular, irregular	Yes

aF in IIF is for follow-up. Cyst size of >3 cm in diameter is another criterion for follow-up and by extension inclusion in class IIF.

A classification of renal cysts on the basis of their appearance and enhancement on CT was introduced by Bosniak in 1986 and refined in 2003 (Table-1) and is accepted by urologists and radiologists for the diagnosis, evaluation, and management of cystic lesions[17]. Technical adequacy, high-quality imaging, operator skill, interpretive expertise, and the population studied affect the variable results in the literature. It is important to note the classification criteria are based on CT and only retrospectively extended to ultrasonography for the diagnosis of a simple cyst.

Whether labeled simple or complex or however reported radiologically, the terms used all are descriptive. Whenever concern of their association with neoplasms exists, a final diagnosis can be made only with histologic examination. Approximately 40 to 60% of class IV cysts (Table-1) were proved to be malignant[2-4]. Nevertheless, imaging findings can be diagnostic and circumvent unnecessary surgery. As a rule, sharply defined cysts with well-transmitted sound waves and absence of any echoes on ultrasonography define a simple cyst. Any complexity that deviates from this should be further evaluated by CT. The features of note on CT that are associated with increased risk for malignancy are the presence of calcification, septae, loculation, wall thickening or nodularity, and in creased density or enhancement after dye injection. It is the cumulative complexity of these features that determine the Bosniak classification (Table 1). Magnetic resonance imaging has better contrast resolution than CT and can be useful in indeterminate class II and III cases but is not necessary for routine evaluation [2,4]

Taken together, lobularity, irregularity, calcification, and measurable dye enhancement (increased attenuation of > 10 to 15 HU) of a cyst determine its current classification and approach (table 1) Although there are no evidence based guidelines, the available literature suggests that [2-4] class IV cysts and definite class III features should be considered seriously. Class IIF and indeterminate class III should be followed by CT at 3,6, and 12 month and annually thereafter. Class I and II cyst may need periodic evaluation by ultrasonography for the first 2 to 3 year especially in younger patients with cyst diameters of > 3 cm. Renal neoplasms orginating from a simple cyst wall were observed in two of 61 patients followed for 10 year[8]. As such, periodic evaluation at progressively longer intervals of enlarging or symptomatic cyst would be prudent. The role of therapeutic shrinkage of enlarging cysts is questionable.[2-4]

Simple Renal cysts may need periodic follow up for evaluation in clinical perspectives.

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Short Communication

Response Pattern and Hospital Stay in Different Types of Childhood Idiopathic Nephrotic Syndrome

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Summary:

The objective of this prospective study was to compare response time in different types of childhood idiopathic nephrotic syndrome and the duration of hospital stay. There were 24 steroid sensitive nephrotic syndrome (SSNS) and 19 steroid resistant nephrotic syndrome (SRNS). Of SSNS group 13 were infrequent relapse nephrotic syndrome (IFRNS) and 11 were frequent relapse and steroid dependant nephrotic syndrome (FRNS + SDNS). Infrequent relapse nephrotic syndrome (IFRNS) went into remission faster (4.77 + 1.83 days) than frequent relapse and steroid dependent nephrotic syndrome (11.82 ± 7.05 days), (P<0.01). Morbidity in terms of hospital stay was high in steroid resistant nephrotic syndrome compared to frequent relapse and steroid dependent nephrotic syndrome and infrequent relapse nephrotic syndrome. Among steroid resistant group 57.9 percent could not be brought into remission by 6 pulses of alternate day intravenous methyl prednisolone. Infrequent relapse nephrotic syndrome went into remission faster than frequent relapse steroid-dependent nephrotic syndrome. Hospital stay was high in steroid resistant nephrotic syndrome.

Key words : Remission, hospital stay, relapse & nephrotic syndrome.

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Introduction

Nephrotic syndrome in children is characterized by massive proteinuria (urinary total protein > 1gm/m^2 /day or urinary spot protein creatinine ratio of > 2.00), hypoalbuminemia (serum albumin < 2.50gm/dl), edema and hypercholesterolemia (serum cholesterol >250 mg/dl)[1]. Clinical and biochemical features of nephrotic syndrome result from heavy proteinuria with consequent hypoalbuminemia and edema[2].

Estimates of annual incidence of nephrotic syndrome is 2-7 per 1, 00,000 children and the prevalence is 12-16 per 100,000. There is epidemiological evidence of higher incidence of nephrotic syndrome in children from South Asia and Africa[2-5]. Primary or idiopathic nephrotic syndrome is commonly seen in 95% of patients[6], 80% of whom show histological features of minimal change nephrotic syndrome (MCNS) and generally have good prognosis[7,8]. Although recurrence is common in nephrotic syndrome, 90-95% of children with MCNS are responsive to steroid therapy with complete clinical biochemical remission and have excellent long term prognosis[2,6,7,9]. Steroid sensitive nephrotic syndrome (SSNS) comprises 80-90% of syndrome and rest 10-20% nephrotic syndrome is steroid resistant (SRNS)[10].

The objectives of the study were to compare time to response in different types of childhood Idiopathic nephrotic syndrome and the duration of hospital stay.

Methods

This observational study was carried out in the Pediatric Nephrology Unit of the Department of Paediatrics, Bangabandhu Sheikh Mujib Medical University (BSMMU), Bangladesh, a tertiary referral hospital, from January 2003 to January 2005.

The definitions used in this study were : Steroid sensitive nephrotic syndrome (SSNS) defined as responding to steroid therapy within 4 weeks after initiation of the therapy. Infrequent relapsing nephrotic syndrome (IFRNS) defined as less than 4 relapses within one year or less than 2 relapses within 6 months after initial responsive episode. Frequent relapsing nephrotic syndrome (FRNS) as more than 4 relapses in one year and more than 2 relapses within six month after initial responsive episode. Remission was defined as protein free urine for 3 consecutive days and relapse was defined as proteinuria (urine albumin 3+ or more) for 3 consecutive days after responsive episode. The occurrence of 2 consecutive relapses during alternate day prednisolone therapy or within 2 weeks of its

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discontinuation was defined as Steroid dependent nephrotic syndrome (SDNS)[2,3]. Partial remission was defined when patients had on and off insignificant proteinuria (1+ and 2+). No remission after 4 weeks of standard prednisolone therapy at 60 mg/ m^2 / day was defined as steroid resistant nephrotic syndrome (SRNS).

Forty three (43) children were selected of age 1-15 yrs. Among them, 19 had steroid resistant nephrotic syndrome (SRNS) labeled as group B and 24 steroid sensitive nephrotic syndrome (SSNS) labeled as group A. In SSNS group11 children had frequent relapse and steroid dependant nephrotic syndrome (FRNS +SDNS, Group A_1) and 13 had infrequent relapse nephrotic syndrome (IFRNS, Group A_2).

The steroid resistant nephrotic syndrome (SRNS) subjects were treated with 6 pulses of alternate day intravenous methyl prednisolone (30 mg /kg/dose).

Children of 1 to 15 years with nephrotic syndrome, having no secondary cause and parents willing to participate in the study, were included in the study. Children with congenital nephrotic syndrome, nephrotic syndrome and those with severe protein energy malnutrition or Down's syndrome were also excluded.

Data was collected using pre tested semi structured questionnaire and analyzed by SPSS statistical software with appropriate tests. The study was approved by the Ethical Review committee of BSMMU.

Urinary total protein (UTP) was measured by auto analyzer (RA 50 chemistry analyzer). Five (5) ml of venous blood sample was collected for estimation of serum complement C_3 along with serum albumin, total protein, cholesterol, creatinine, blood urea and blood count including hemoglobin and ESR.

Mantoux test (MT) and Bacillus calmette – Guernie (BCG) acceleration tests were performed when indicated. Antinuclear antibody (ANA) and anti double stranded DNA antibody (anti ds DNA) were measured by enzyme – linked immunosorbent assay (ELISA) in the children when indicated to rule out systemic lupus erythematosus disease. HbsAg was tested by screening and ELISA. Chest X-ray and Ultrasonography of the kidneys, ureters and bladder were performed for all the patients. Renal biopsy was done for SRNS patients.

Statistical analysis was performed by using SPSS. Unpaired Student's't' test was used to compare between the groups.

Results

Table-I. Shows hospital stay in SRNS was 39.95 ± 14.53 days, infrequent relapse steroid dependent group was 23.18 ± 7.24 days and in infrequent relapse was 16.15 ± 10.00 days. Statistical comparison between SRNS and FRNS + SDNS groups yielded significant differences ($p< 0.001$). No significant difference was observed between frequent relapse steroid dependent and infrequent relapse group.

Table-1

Duration of hospital stay in steroid resistant and two steroid sensitive groups of Nephrotic Syndrome.

Hospital stay (days)	Group B (N=19)	Group A_1 (N=11)	Group A_2 (N=13)
Mean + SD	39.95 + 14.53	23.18 + 7.24	16.15 + 10.00
Range	18.0 – 78.0	14.0 –37.0	6.0 – 47.0
P value	-	$P < 0.001$ [1]	$p < 0.001$ [2]

Group B = Steroid resistant nephrotic syndrome (SRNS);
Group A_1 = Frequent relapsing nephrotic syndrome (FRNS) + Steroid dependent nephrotic syndrome (SDNS);
Group A_2 = Infrequent relapsing nephrotic syndrome (IFRNS)
[1] for group B vs. group A_1;
[2]for group B vs. group A_2

Table-II shows that the infrequent relapse group(A_2) went into remission in a mean period of 4.77 + 1.83 days and frequent relapse steroid dependent group went into remission in a mean period of 11.82 + 7.05 days. This difference is statistically significant ($p<.001$).

Table-II

Time for response in days after initiation of oral prednisolone in the two steroid sensitive groups.

Time required for response (days)	Group A_1 (N=11)	Group A_2 (N=13)	P Value
Mean + SD	11.82 + 7.05	4.77 + 1.83	P<0.001
Range	2.00 –24.00	3.00 – 9.00	

Group A_1 = Frequent relapsing nephrotic syndrome (FRNS) + Steroid dependent
nephrotic syndrome (SDNS);
Group A_2 = Infrequent relapsing nephrotic syndrome (IFRNS)

Among the 19 children with steroid resistant nephrotic syndrome (SRNS), the histological reports on biopsy were mesangial proliferative glomerulonephritis (9), minimal change nephrotic syndrome (3), focal segmental

glomerulosclerosis (3), membranoproliferative glomerulonephritis (2) and membranous glomerulonephritis (2).

In steroid resistant group 26.3 percent of the patients achieved complete remission, 15.8 percent achieved partial remission and rest 57.9 percent could not be brought into remission by 6 pulses of alternate day intravenous methyl prednisolone (30 mg /kg/dose).

Discussion:

Ninety five percent of nephrotic syndromes are idiopathic (INS) and 80% of idiopathic childhood nephrotic syndromes are MCNS. Presence of hypertension, gross hematuria and impaired renal function indicate significant glomerular lesion[9,11].

Rapidity of response with oral prednisolone 60 mg/m^2 /d in infrequent relapse (IFNS) nephrotic syndrome group in comparison to (FRNS + SDNS) frequent relapse steroid dependent nephrotic syndrome was similar with the finding of Constantinescu et al. who reported better prognosis in rapid responders[12]. Similarly, hospital stay (morbidity) of our patients was significantly higher in SRNS than FRNS + SDNS and IFRNS groups.

In our study SRNS were treated with 6 pulses of alternate day intravenous methyl prednisolone which brought 26 percent of the patients' complete remission, 16 percent achieved partial remission and in the rest had no remission. In a similar study another author observed complete remission, partial remission and no remission in 26, 32 and 42 percent of patients, respectively [13].Pulses of methyl prednisolone had variable success rates of 37.5 percent in all SRNS to 65 percent in FSGS[14,15]. The higher numbers of SRNS found in this study could be due to referral to this tertiary referral hospital from different areas of the country.

Conclusion:

Infrequent relapse nephrotic syndrome went into remission faster than frequent relapse steroid- dependent nephrotic syndrome. Morbidity in terms of hospital stay was high in steroid resistant nephrotic syndrome. Addition of pulse therapy using methyl prednisolone could not bring remission in the majority of the steroid resistant Nephrotic syndrome(SRNS) children.

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Abstract from Current Literature

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Glomerular retrieval by cell block preparation of preservative fluid: an adjunct to biopsy diagnosis.

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Objective: To investigate the possibility of glomerular retrieval from formalin left in biopsy vials and to evaluate its diagnostic value and accuracy.

Study Design: Cell blocks were prepared from 94 consecutive formalin vials left after processing of renal biopsies from 93 patients, including 25 transplant patients. The prepared cell blocks were processed with routine biopsies and evaluated separately, and the results compared.

Results: Of the 94 samples, 29 (23 nontransplant patients and 6 allograft recipients) showed the presence of glomeruli in cell blocks, with an average of 1.7 glomeruli per cell block. In nonallograft native renal biopsies, the histologic diagnosis of glomerular morphology in cell blocks correlated with routine biopsy in 18 of 22 cases. The least retrieval was seen in crescentic glomerulonephritis, diabetic glomerulosclerosis and diffuse global glomerulosclerosis, possibly due either to the tight adherence of the glomerular tuft to the crescent or to fibrosis. All 6 samples from transplant recipients showed normal glomeruli in routine histology and in cell block preparations.

Conclusion: Cell blocks from discarded formalin may be a useful adjunct to routine histopathology for the diagnosis of glomerular disease in centers where inadequacy of renal biopsy is frequently reported

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Renal histological findings in adults in Jamaica

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Background: In 2006, it was reported that Focal and Segmental Glomerulosclerosis (FSGS), Minimal Change Disease (MCD) and Membranous Glomerulonephritis (MGN) were the commonest primary glomerular diseases identified from percutaneous kidney biopsies done in Jamaica for that year (n = 76). The sample size was thought to be small and might have affected the reported findings. So a three-year review of percutaneous kidney biopsies in Jamaica was carried out.

Methods: Histology reports and clinical data were reviewed for percutaneous kidney biopsies performed from January 2005 to December 2007. Demographic data (age, gender), laboratory investigations such as serum urea, serum creatinine, proteinuria, haematuria, 24-hour urinary protein, and creatinine clearance, and clinical diagnosis were collected from the histology requisition form.

Results: There was a total of 224 native kidney biopsies performed. There were 91 males (40.6%) and 133females (59.4%). Age distribution showed a total number of 25 paediatric cases (11.2%) and 199 adult cases (88.8%). Proteinuria was present in 171 cases (76.3%) and haematuria in 86 cases (38.4%). Of the total biopsies done, 78 cases (39.2%) had primary glomerular diseases, 110 cases (55.3%) had secondary glomerular diseases and 11 (5.5%) biopsies were reported as either normal or inadequate for histological diagnosis. The most common reasons indicated for percutaneous kidney biopsy were proteinuria, haematuria and staging of lupus nephritis. Most common histological findings for primary glomerular disease after percutaneous kidney biopsy were FSGS (n = 34), MGN (n = 15) and MCD (n = 12). In secondary glomerular diseases (n = 110), there were more females (70.8%) than males. Systemic lupus erythematosus was present in 63.3%. Histology of lupus nephritis according to the International Society of Nephrologists classification shows Membranous Lupus Nephritis [MLN] (40.20%), Diffuse Lupus Nephritis [DLN] (19.5%) and Minimal Mesangial Lupus Nephritis [MMLN] (14.3%) as the common histological types.

Conclusions: The most common histological finding for primary glomerular disease following percutaneous kidney biopsy was FSGS, MCD and MGN. Membranous Lupus Nephritis was the commonest histological type for lupus nephritis in this series

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Acute renal failure in the intensive care unit: aetiological and predisposing factors and outcome.

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Background: Acute renal failure (ARF) in the intensive care unit (ICU) complicates 20 to 35% of admissions worldwide. There is no information on the pattern of ARF in our ICU and factors that influence survival.

Objective: To determine the magnitude of acute renal failure, and outcome among patients at an ICU in Nigeria.

Methods: Adult patients requiring intensive care, and with ARF were recruited. Severity of ARF was assessed using the Liano prognostic scoring system and a modified version of APACHE II prognostic scores. Haemodialysis was offered when indicated. Management outcomes were noted while a relationship was sought between severity of ARF and outcome.

Results: Forty (19.6%) of the 204 patients managed during the period had ARF. These included 28 (70%) males and 12 (30%) females. Twelve (30%) of the patients had head injury while eight (20%) had major burns. Surgical sepsis accounted for seven (17.5%), while six (15%) patients had advanced metastatic carcinoma. Multiple fractures accounted for four (10%) while other causes accounted for the remaining 16 (40%). The mean serum creatinine and urea were 863.3+95umol per litre and 19.45(4.1) mmol per litre respectively. The Liano scores ranged from 33% to 99% , mean of 61 + or - 4.2%) while modified APACHE II score ranged from 5-19 (mean of 11 + or - 3.2). There was a significant correlation between the Liano scores and outcome ($p<0.007$) while the modified APACHE II score did not influence the outcome ($P>0.05$). Eighty percent of patients who had two or more organ failure died compared to 20% of the patients with less than two organ failure. Eight (20%) patients survived. Dialysis therapy significantly influenced outcome as 100% of the dialysed patients survived compared to 80% of those who were not.

Conclusion: Acute renal failure presents a continuing challenge in the ICU setting with attendant of high morbidity and mortality. Dialysis significantly influences survival, hence, the service should be provided in every intensive care unit.

West Afr J Med. 2009 Jul-Aug;28(4):240-4.

The impact of renal insufficiency and anaemia on survival in patients with cardiovascular disease: a cohort study.

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Background: The simultaneous occurrence of cardiovascular disease (CVD), kidney disease, and anaemia is associated with increased morbidity and mortality. In the community setting, little data exists about the risk associated with milder levels of anaemia when it is present concurrently with CVD and chronic kidney disease (CKD). The aim of this study was to establish the prevalence of CKD and anaemia in patients with CVD in the community and to examine whether the presence of anaemia was associated with increased morbidity and mortality.

Methods: This study was designed as a retrospective cohort study and involved a random sample of 35 general practices in the West of Ireland. A practice-based sample of 1,609 patients with established cardiovascular disease was generated in 2000/2001 and followed for five years. The primary endpoint was death from any cause. Statistical analysis involved using one-way ANOVA and Chi-squared tests for baseline data and Cox proportional-hazards models for mortality data.

Results: Of the study sample of 617 patients with blood results, 33% (n = 203) had CKD while 6% (n = 37) had CKD and anaemia. The estimated risk of death from any cause, when compared to patients with cardiovascular disease only, was almost double (HR = 1.98, 95% CI 0.99 to 3.98) for patients with both CVD and CKD and was over 4 times greater (HR = 4.33, 95% CI 1.76 to 10.68) for patients with CVD, CKD and anaemia.

Conclusion: In patients with cardiovascular disease in the community, chronic kidney disease and anaemia occur commonly. The presence of chronic kidney disease carries an increased mortality risk which increases in an additive way with the addition of anaemia. These results suggest that early primary care diagnosis and management of this high risk group may be worthwhile.

BMC Cardiovasc Disord. 2009 Nov 12;9:51.

Longitudinal relationships among coronary artery calcification, serum phosphorus, and kidney function.

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Background and Objectives: Coronary artery calcification (CAC) is common in advanced chronic kidney disease

(CKD), yet its onset and time course are uncertain. The study objective was to assess longitudinal relationships among CAC, kidney function, and traditional and putative cardiovascular disease (CVD) risk factors.

Design, Setting, Participants, & Measurements: This is a prospective cohort analysis from the Spokane Heart Study, a long-term observational study of community-dwelling adults who were assessed every 2 yr for CAC (electron-beam computed tomography), CVD risk factors, and laboratory testing. Estimated GFR (eGFR) was determined by the reexpressed Modification of Diet in Renal Disease equation.

Results: CAC was present in 28% (245 of 883) at baseline. After 6 yr, new-onset CAC developed in 33% (122 of 371); severity increased from a median CAC score of 38 to 152 in those with baseline CAC. Neither eGFR (101 +/- 34 versus 104 +/- 31 ml/min per 1.73 m(2), respectively) nor serum phosphorus (3.25 +/- 0.49 versus 3.29 +/- 0.48 mg/dl, respectively) differed by CAC presence or absence at baseline; however, multivariate models (generalized estimating equations for incidence and prevalence) revealed that independent predictors of CAC over time were greater baseline CAC scores, higher serum phosphorus levels, lower eGFR levels, and traditional CVD risk factors. Each 1-mg/dl increase in phosphorus imparted odds ratios for CAC of 1.61 (incidence) and 1.54 (prevalence), risks comparable to traditional CVD risk factors.

Conclusions: CAC becomes more frequent and severe over time. Higher levels of serum phosphorus and reduced kidney function independently predicted CAC.

Clin J Am Soc Nephrol. 2009 Dec;4(12):1968-73. Epub 2009 Nov 5.

The adverse long-term impact of renal impairment in patients undergoing percutaneous coronary intervention in the drug-eluting stent era.

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Background: An observational study determining the long-term impact of chronic kidney disease (CKD) on patients undergoing percutaneous coronary intervention at a tertiary cardiac referral center. CKD is associated with poor in-hospital outcomes after percutaneous coronary intervention, but its effect beyond 1 year, particularly in the drug-eluting stent (DES) era, has not been reported.

Methods and Results: Baseline creatinine was available for 11,953 patients entered into a prospective registry (April 2000 to September 2007). Patients were stratified: those with or without at least moderate CKD (creatinine clearance, <60 mL/min). Follow-up data were obtained through linkage to a provincial registry. Kaplan-Meier analysis was performed. Cox multiple-regression analysis identified independent predictors of late mortality and major adverse cardiac events (MACE) and examined the association between DES use and late outcomes in the presence or absence of CKD. CKD was present in 3070 patients (25.7%). In-hospital mortality and MACE were significantly increased in CKD (3.34% versus 0.44%, P<0.001 and 5.73% versus 2.2%, P<0.001). Survival and MACE-free survival at 7 years were reduced (64.5+/-1.4% versus 89.4+/-0.5%, P<0.001; 44.0+/-1.4% versus 63.4+/-0.8%, P<0.001). CKD was an independent predictor of late mortality and MACE (hazard ratio [HR]: 2.18, CI: 1.90 to 2.49, P<0.0001; HR: 1.37, CI: 1.25 to 1.49, P<0.0001). DES use was associated with a significant reduction in both (HR: 0.71, CI: 0.60 to 0.83, P<0.0001; HR: 0.70, CI: 0.63 to 0.78, P<0.0001). In patients with CKD, DES use was associated with reduced revascularization (HR: 0.68, CI: 0.53 to 0.88, P=0.004) and reduced MACE (HR: 0.81, CI: 0.69 to 0.95, P=0.011) but not reduced mortality (HR: 0.85, CI: 0.69 to 1.05, P=0.1).

Conclusions: In a large registry of "all comers" for percutaneous coronary intervention, CKD was an independent predictor of adverse late outcomes. DES use may be associated with improved long-term outcomes in this high-risk cohort, but further prospective studies are required

Circ Cardiovasc Interv. 2009 Aug;2(4):309-16. Epub 2009 Jun 30.

Incidence of end stage renal disease on renal replacement therapy in Nepal.

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Background: End stage renal disease patients are treated with dialysis in Nepal. But there is no renal registry to indicate the burden of disease in the country.

Objectives: The objective of this study is to find out the incidence of ESRD on renal replacement therapy and their out come.

Materials And Methods: It is a retrospective analysis (audit) of all ESRD patients who had received dialysis inside Nepal and had under gone transplantation from 1990 to 1999. The haemodialysis (HD) registry, HD patients file, intermittent peritoneal dialysis (IPD) registry of Bir Hospital, Shree Birendra Hospital, Tribhuwan University Teaching hospital and National Kidney Center were reviewed. Acute renal failure and acute on chronic renal failure were excluded and the demographic profile, dialysis session, dialysis duration and outcome of all ESRD patients were computed. One patient was counted only once in spite of attending more than one center for dialysis. SPSS package was used for analysis.

Results: Total number of 1393 ESRD patients received renal replacement therapy (RRT) in the decade. Mean age of patients were 46.7 +/- 16.7 with 70% of ESRD were between 20-60 years age with male: female ratio of 1.8:1. Initial mode of RRT was IPD in 58.2%, HD in 41.7% and pre-emptive transplantation in 0.1% patients. Records of 189 patients could not be found and out of remaining 1208 patients, 85.8% received dialysis for < 3 months, 6% received dialysis for more than a year and 9.5% had undergone kidney transplantation. The incidence of ESRD had increased gradually with 3.4 per million populations (pmp) in 1990 to 11.89 pmp in 1999 with an average annual incidence of 6 pmp and only 0.31% of expected ESRD patients received RRT.

Conclusion: The incidence of ESRD is increasing but majority discontinue or die within 3 months. Dialysis centers needs to be expanded to different parts of country and prospective studies have to be carried out to fi nd out of cause of ESRD and to institute preventive measures

Kathmandu Univ Med J (KUMJ). 2009 Jul-Sep;7(27):301-5.

Renal transplantation-anaesthetic experience of 350 cases

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Summary: Transplantation provides a near normal life and excellent rehabilitation compared to dialysis and is the preferred method of treatment for end stage renal disease patients. We describe our experiences through a retrospective analysis of anaesthesia management of 350 cases of both living related and cadaveric renal transplantation conducted between Jan 2004 - April 2008 at Jaslok Hospital And Research Center. Areas of our interest include preoperative patient status, fluid management, hemodynamic stability, anaesthesia management, and perioperative complications. Recent advances in surgical techniques; anaesthesia management and immunosuppressive drugs have made renal transplantation safe and predictable. Preoperative patient optimization, intraoperative physiological stability and postoperative care of renal transplant patients have contributed to the success of renal transplant programme in our hospital.

Indian J Anaesth. 2009 Jun;53(3):306-11.

Effect of vitamin C supplementation on oxidative stress and lipid profiles in hemodialysis patients.

ABDOLLAHZAD H, EGHTESADI S, NOURMOHAMMADI I, KHADEM-ANSARI M, NEJAD-GASHTI H, ESMAILLZADEH A.

School of Health, Zabol University of Medical Sciences, Tehran, Iran.

Background and aims: The increase in oxidative stress is the main factor in acceleration of atherosclerosis, leading to death in hemodialysis patients. Vitamin C is one of the most important antioxidants that inhibits lipid peroxidation and improves endothelial function. This study aims to assess the effects of vitamin C supplementation on lipid profiles as well as markers of lipid peroxidation among hemodialysis patients. Materials and methods: In this double-blind, randomized, controlled clinical trial, a total of 42 patients were randomly assigned to vitamin C (n=21) or placebo groups (n=21). Patients in the vitamin C group consumed 250 mg vitamin C and those in the placebo group were given placebo every other day for 12 weeks. Fasting blood samples were collected at baseline and at the end of the study to measure serum concentrations of lipid profiles, as well as malondialdehyde (MDA) and vitamin C. Results: After supplementation with vitamin C, serum vitamin C levels increased significantly in the vitamin C group as compared to baseline (p=0.033). There was also a significant difference in serum vitamin C levels between vitamin C and placebo groups (p=0.001). Serum MDA concentrations were marginally decreased in the vitamin C group after taking supplements (p=0.057). A

significant difference was also seen in mean MDA changes between vitamin C and placebo groups (p=0.002). There was a significant difference in serum levels of total cholesterol (p=0.005), low-density lipoprotein (LDL-C) (p=0.012), and LDL-C/high-density lipoprotein (HDL-C) ratio (p=0.018) between the two groups; however, serum triglyceride and HDL-C levels were not significantly different between groups. Conclusion: Every other day supplementation with 250 mg vitamin C for 12 weeks increases serum vitamin C, decreases MDA levels, and improves lipid profiles in hemodialysis patients

Int J Vitam Nutr Res. 2009 Sep;79(5-6):281-7.

Protein-energetic malnutrition as a predictor of mortality in patients on haemodialysis

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Introduction: Malnutrition in patients on haemodialysis represents an important factor of mortality. The aim of the study was to estimate the influence and predictive significance of malnutrition on mortality of patients on haemiodialysis.

Material And Methods: There were analyzed the outcomes of treatmnent of patients on outpatient program of haemodialysis who were hospitalized in Clinical Centre "Kragujevac" for different reasons. The study included the analysis of demographic characteristics, duration of dialysis, body mass index, indications for hospitalization, result of the treatment and biochemical parameters.

Results: 39.2% of the examined patients had the elements of protein-energetic malnutrition; 36.8% of patients with malnutrition died; the difference between the groups was statistically sign,ificant (p = 0.0006) regarding the results of treatment. Statistically significant difference (p < 0.0001) was also obtained concerning the body mass index with its value of 17.1 +/- 1.55 kg/m2 in patients with malnutrition. Cardiovascular diseases were statistically more common in patients with malnuttrition (p = 0.037). In correlation of the group of patients with and the group without malnutrition a statistically significant difference in number of erythrocytes was found (2.87 +/- 0.71 vs. 3.26 +/- 0.5 x 1012; p = 0.04), concentration of hemoglobin (85 +/- 15.7 vs. 104 +/- 15.7; p < 0.0001), level of creatinin (874 +/- 229.3 vs. 998 +/- 237.8 micromol/L: p = 0.04), total proteins (66.5 +/- 5.4 vs. 70 -/+ 4.47 g/L: p = 0.001), albumin (30 +/- 3.7 vs. 38 +/- 4.38: p < 0.0001), total cholesterol (3.05 +/- 1.14 vs. 4.31 +/- 1.2 micromol/L: p < 0.0001), C-reactive protein (9.5 +/- 6.8 vs. 2.9 +/- 5.09 mg/L: p < 0.0001) and concentration of fibrinogen (4.960 +/- 0.91 vs. 4.22 +/- 0.91 micromol/L p = 0.l01). Survival time in patients with malnutrition was statistically shorter-18 months (p < 0.0001).

Conclusions: A third of the examined patients in our study were malnourished with lower survival rate. More than two thirds of patients witih malnutrition died

Med Pregl. 2009 Nov-Dec;62(11-12):573-7.

Outcomes of two different polytetrafluoroethylene graft sizes in patients undergoing maintenance hemodialysis.

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Arteriovenous access creation is mandatory for maintenance hemodialysis. If native fistula placement was not possible or failed, a prosthetic conduit would be the best substitute. The purpose of this prospective study was to compare outcomes of two different sizes of polytetrafluoroethylene (PTFE) grafts, in hemodialysis patients, at the Mustafa Khomeini Hospital in Iran. The study population consisted of 586 end-stage renal disease referrals for vascular access construction (January 2003 to January 2007) of which eventually 102 subjects were candidates for PTFE graft who were followed for one year. Data were collected by a questionnaire and analyzed using the SPSS, life table, Kaplan- Meier and Log-Rank tests. Out of 102 PTFE implantation candidates (mean value of age 51.7 +/- 17.06 yrs), 56% were male and 44% female. PTFE grafts of 8 mm and 6 mm sizes were randomly placed in 57 and 45 subjects, with distribution of 83%, 12% and 5% in arm, forearm and thigh. The most underlying diseases were hypertension and diabetes. There was a significant difference in complication rates between patients with and without underlying diseases [42% vs. 10% (P = 0.03)]. One-year patency rates were 42.2% and 36.5% for 6 mm and 8 mm grafts and 28.2% vs. 52% in patients with and without underlying diseases respectively. Despite more complication frequency in 8 mm grafts, the patency and complication rates of two graft groups did not significantly differ. Hypertension and diabetes could have contributory roles in graft complication rate, which may be preventable. Non-tapered grafts of 6 mm and 8 mm sizes have not significant different outcomes. Further research is recommended with larger sample size and longer duration

Indian J Nephrol. 2009 Oct;19(4):149-52.

Announcement

(Bang. Renal J. 2009; 28(2): 43-44)

Apply for an ISN Educational Ambassador to Visit Your Center

ISN COMGAN and its Education Committee believe the most effective teaching takes place in face-to-face, hands on settings. ISN is now extending its traditional CME lecture program to offer renal centers in emerging countries the opportunity to invite an established expert (ISN Educational Ambassador) from outside to come to your institution and remain for a period of 1–4 weeks to provide hands on teaching and help to establish new programs that would benefit patient care. Experts may be selected directly by the center, or ISN will match the needs of the center with qualified experts who have volunteered to become educational ambassadors. Costs of travel will be covered by ISN, centers are asked to provide local accommodations.

Tired of reading journals, reviews and textbooks written by distant experts that cannot answer your questions or give advice? Invite the expert to come to you! This new program offers support for a unique opportunity to start new programs and expose your students, residents, fellows and practioners to in depth contact with an established ISN teacher whose experience and expertise matches your needs.

More information and application forms are available at http://www.nature.com/isn/society/outreach/isn_20090.html

Previous SectionNext Section

Become an Educational Ambassador for ISN

The ISN seeks qualified nephrologists willing to visit a renal center in a developing country for as little as 1–2 weeks to help establish or upgrade a new clinical program (e.g. peritoneal dialysis, management of AKI, pediatric nephrology, renal pathology, many others). Expertise will be matched with needs outlined in applications for assistance from developing country centers. Timing is flexible and negotiable. Both all nephrologists with a hospital or university teaching position and an existing or potential interest in international renal health care are welcomed. Travel costs are paid by ISN, and local accommodations will be provided by host centers.

You can volunteer to visit a developing renal center that needs your help in a part of the world you would not ordinarily see, experience a unique professional opportunity for service and interaction with local providers, make a contribution to improving renal care in the emerging world and promote international understanding and collaboration. If you are someone who sees yourself as a concerned citizen of the global health community, this program is a way to demonstrate that commitment by sharing your expertise where it is most needed.

If you are an emerging center that would like to benefit from the visit of an Educational Ambassador ISN is now also welcoming application requests for training! Applications must be received by May 1st.

More information and application forms are available at http://www.nature.com/isn/society/outreach/isn_20090.html

Previous SectionNext Section

8th Seminar in Nephrology in Wels, Austria 16 January 2010 from 09:30 am to 02:30 pm

Venue: Festsaal, Klinikum Kreuzschwestern Wels GmbH, Grieskirchnerstrasse 42, A-4600 Wels, Austria.

Topic: "Nephrology and Geriatrics".

The meeting is held in German language and will be presented by speakers from all over Austria and with as special guests Prof. E. Ritz and Prof. C. Wanner, who will make it a stimulating conference. Extended abstracts of all lectures will be available shortly after the seminar at our website www.nephrovilava.net

For further information, please visit our website at www.nephrovilava.net, or contact Dr. Friedrich Prischl, Klinikum Wels-Grieskirchen, Grieskirchnerstrasse 42, A-4600 Wels, Austria. Tel. +43 7242 415 2174, Fax +43 7242 415 3993, or email: friedrich.prischl@klinikum-wegr.at

Previous SectionNext Section

Renal Physiology for the Clinician

Fluids, electrolytes and acid-base

All you need to know about fluid and electrolyte balance, but were too puzzled to ask!

14–16 April 2010, The Royal Free Hampstead NHS Trust, Pond Street, London NW3

This course aims to integrate physiological principles with day-to-day clinical practice. It will feature formal, introductory lectures each day, and clinical case-based and interactive discussions with our faculty designed to illustrate and build upon the day's presentations. It is intended for Specialist Registrars in Nephrology, and will also be of interest to more senior General (Internal) Medicine SPRs and SPRs in Intensive Care Medicine. Consultant Nephrologists and General Physicians with an interest in fluid and electrolyte disorders are welcome to attend as a "refresher" course.

Previous SectionNext Section

Closing Date for Registration 15 March 2010

For registration information, please contact the Course Administrator:

Pamela Fong Whitehead Tel +44 (0)20 7830 2930

Centre for Nephrology Fax +44 (0)20 7317 8591

UCL Medical School, Rowland Hill Street, London NW3 2PF UK.

Email: pf.whitehead@medsch.ucl.ac.uk

Course Directors: Dr Chris Laing and Professor Robert J. Unwin.

Previous SectionNext Section

DIALYSIS 2010

A comprehensive course on dialysis and the management of patients with end stage renal failure.

9–11 June 2010, The Royal Free Hampstead NHS Trust, Pond Street, London NW3

The management of end stage renal failure by dialysis forms a central component of all renal units. However, it is often the least intensively taught component of nephrology training. This in-depth course is a thorough introduction to dialysis, from basics to new developments. Expert faculty will provide comprehensive coverage of all aspects of dialysis and ESRF through a mixture of informal lectures and workshops. Although the course is aimed at Specialist Registrars in nephrology, it will also be of interest to other health care professionals involved in the management of patients with chronic renal failure.

Previous Section

Closing Date for Registration 10 May 2010

For registration information, please contact the Course Administrator:

Pamela Fong Whitehead Tel +44 (0)20 7830 2930

Centre for Nephrology Fax +44 (0)20 7317 8591

Royal Free & University College Medical School, Rowland Hill Street, London NW3 2PF UK

Email: pf.whitehead@medsch.ucl.ac.uk

Course Directors: Dr Andrew Davenport, Professor Ken Farrington, Professor Stephen Powis and Dr David Wheeler.

Notes and News

(Bang. Renal J. 2009; 28(2): 45)

National Foundation for Infectious Diseases (NFID): Annual Conference on Vaccine Research
Date: 05/07/2012 - 05/09/2012
Location: Hyatt Regency Inner Harbor
Address: Baltimore, MD
Organization: National Foundation for Infectious Diseases
Phone: 301-656-0003, x 19
E-mail: vaccine@nfid.org

2nd Global Congress for Consensus in Pediatrics and Child Health
Date: 05/17/2012 - 05/20/2012
Address: Moscow
Country: Russia
URL: http://www.cipediatrics.org/2011/

The 14th Asia Pacific Congress of Pediatrics (APCP) 2012 & 4th Asia Pacific Nursing Conference (APNC) 2012
Date: September 8-12, 2012
Borneo Convention Centre Kuching (BCCK) in Kuching, Sarawak state, Malaysia
The proposed theme is: Towards equity in child health.
The event is organised by the Malaysian Paediatric Association (MPA), endorsed by the Ministry of Health, Malaysia, Tourism Malaysia, the Sarawak State Government and is supported by the Sarawak Convention Bureau and the Malaysia Convention and Exhibition Bureau.

The 4th congress of the Europian academy of Paediatric societies (EAPS)
October 6-9, 2012
Istambul, Turkey