Pattern of Renal Disease in Children

Pages with reference to book, From 118 To 120

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Abstract

In 1992 a total of 1298 patients with renal diseases were seen in the medical outpatients department. Eight hundred and forty-seven (65.2%) had urinary tract infection and 265 (20.5%) had nepbrotic syndrome. Two hundred and twenty patients required inpatient care, which constituted 3.3% of total number of patients admitted to medical wards. Sixty-four (29%) of admitted patients with renal disease had nephrotic syndrome, 29 (13.1%) had acute renal failure due to various causes including haemolytic uraemic syndrome. The average stay was 5.8 days per patient and mean bed occupancy was 3.4.beds per day. Various renal diseases in children together form an important group of disorders often requiring long term care and this should be taken into account when planning provision of child health services particularly at tertiary care level (JPMA 44:118, 1994).

Introduction

There is little information available regarding the pattern of various renal diseases as they affect our population[1]. Paediatric nephrology being a relatively newer subspeciality in Pakistan, has yet to receive its due attention. The Children's Hospital Islamabad, being a tertiary care centre, received patients from NWFP, Azad Kashmir and northern part of the Punjab. It has busy outpatients and inpatients departments. The figures collected here can be regarded as a fair representation of the problems faced by the population in this area. This study was carried out in order to provide a base line of renal diseases in children.

Patients and Methods

Medical records of all patients with renal disease seen in medical outpatients department or admitted to various medical wards during the year 1992 were reviewed. Patients were divided into three age groups: less than 1 year, 1 to 5 years and more than 5 years. At the outpatients level the parameters seen were: major diseases bringing the patient to the hospital, sex preponderance if any, regarding every individual disease and the age group most affected by the disease. In addition to the general outpatients department figures were also collected from the specialist (nephrology) clinic which was started in April, 1992. At the outpatients level number of patients visits was taken into consideration rather than individual patients. Therefore, the actual number would have been less than what is being depicted in this study. This is most relevant in the case of nephrology clinic. At the inpatients level, in addition to the above, mean age of presentation, mortality, mean stay and average bed occupancy by the renal patients were recorded.

Results

A. Outpatients Department

In the outpatients department a total of 34316 patients visits were recorded during 1992. Out of these

1298 (3.8%) patients had various renal problems. Majority (62.5%) of patients with renal disease were above the age of 5 years (Table I).

Table I. Age distribution (outpatient department).

Upto 1 year	1-5 years	Above 5 years
59(4.6%	427(32.8%)	812 (62.5%)

Urinary tract infections accounted for 2.4% of all the patients seen in medical OPD and 65.2% of patients with renal disease, 20.4% had nephrotic syndrome, 4.8% acute glomerulonephritis and 3.0% had nocturnal enuresis and the rest (5.7%) were grouped together as miscellaneous (Table II).

Table II. Disease pattern (outpatients department).

Disease	Number (%)	Male	Female	M:F ratio
UTI	847 (65.2)	418	429	1:1.02
Nephrotic syndrome	265 (20.4)	183	82	2.2:1
AGN	63 (4.8)	35	28	1.2:1
Nocturnal enuresis	39 (3.0)	19	20	1:1.05
Miscellaneous	84 (6.4)	53	31	1.7:1
Total	1298(100)	708	590	1.2:1

B. Inpatients Department

Out of 6568 patients admitted during this period, 220 (3.35%) had renal problems and most of them (45.1%) were above the age of 5 years (Table III).

Table III. Age distribution (admitted patients).

Upto 1 year	1-5 years	Above 5 years
34(15.45%)	87(39.54%)	99(45.0%)

UTI Two hundred and twenty patients with renal disease had to stay a total number of 1276 days in the hospital. The average stay per patient was 5.8 days. The mean bed occupancy was 3.4 beds per day. Mortality in the admitted patients was seen essentially in the cases of renal failure (both acute and chronic). There were a total of 10 deaths in nephrology patients and 9 of them had renal failure. The remaining one patient had congenital nephrosis.

Discussion

This study confirms the existing data[1] on paediatnc renal disease, however, the information regarding the prevalence of different diseases in northern Pakistan has not previously been reported. In this study the prevalence of UTI in outpatients corresponds to other studies carried out in a similar population[2,3]. Saleem et al.3 found that 1.5% of school going children had UTI and Abbas et al.[3] reported bacteriuria in 2.7% children admitted in Rawalpindi General Hospital. The sex distribution in this series was different from the other studies[2-4]. In the admitted patients, our figures were similar. but the female predominance in outpatients was difficult to explain. Less than satisfactory methods of collection of urine in the OPD would have given a higher occurrence in female children (Table IV).

Table IV. Individual disease pattern (admitted patients).

Disease	No. of patients(%)	Sex			Mean age (yrs)	Deaths	
		Male	Female	Ratio		No.	%
N.S.	64 (29.0)	33	31	1.06:1	4.9	0	0.0
UTI	44 (20.0)	14	30	1:2.14	3.0	0	0.0
ARF/ HUS	29 (13.1)	22	7	3.14:1	3.6	5	17.2
CRF	25 (11.6)	21	4	5.25:1	6.7	4	19.0
AGN	24 (10.9)	15	9	1.50:1	7.2	0	0.0

Figures not included in this table include miscellaneous diseases amounting to 34 (14.9%).

Inspite of its high frequency in paediatric outpatients nephrotic syndrome was less frequent than the reported figures from Karachi[1]. High prevalence of nephrotiè syndrome has also been reported from India[5] and Indo-Pakistani population residing in the United Kingdom[6,7]. The age and sex distribution was also similar to other reported series[8]. Acute glomerulonephritis was also seen as a significant problem both at inpatients and outpatients levels (Table II and IV). This pattern is similar to one reported in other series[5,9]. Both age and sex distributions seen in the previous studies[5,9] are confirmed by our figures. Because of high morbidity and mortality, renal failure is perhaps the most important nephrological problem. In this series acute renal failure due to various causes contributed significantly to the patient load, inpatient care and mortality. However, prognosis in this series was better than that seen in the Indian patients[5] and in Karachi series[1]. In this study mortality due to ARF was 17.2% in patients with renal failure and 1.31% in all renal patients. HUS was among the leading causes of ARF. The nature of aetiological agents leading to diarrhoeal. disease jneceding HUS could not be ascertained due to various factors. The information from India[10] and Bangladesh[11] suggests that Shigellosis could well be the major infection leading to the development of HUS. Chronic renal failure resulting from various causes was also seen as a major contributing factor in the morbidity and mortality of patients with renal disease. Nephrolithiasis although common, has not been included in this study as these cases are mainly seen and managed in surgical unit. This constituted 31% of paediatric urological and 13.1% of total nephrological problems. Renal disease in children is an important group of disorders from both mortality and morbidity point of view, incurring significant expenses on both family and health

services. There is scanty data and there is an acute need for further detailed studies particularly looking at individual diseases to plan provision of optimal health services for these children.

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