MEDICINE

RENAL DISEASE: COMMON CAUSES OF ADMISSION INTO ADULT MEDICAL WARDS OF KOMFO ANOKYE TEACHING HOSPITAL, KUMASI, GHANA

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ABSTRACT

Each year, between 2-3% of the cases admitted into the adult medical wards of Komfo Anokye Teaching Hospital are due to renal diseases. Prospective analysis of 350 cases admitted over a 3 year period (1988 - 1990) shows that most of the patients (28.0%) present with chronic renal failure. There is a high mortality rate of 40.8% due to the frequency of terminal uraemia and the fact that there is no possibility of managing such patients with regular dialysis or transplantation. The patients with chronic renal failure are relatively young with mean age of 36.1 years. The incidence of Urinary Tract Infection (UTI) is 27.40%. Pyelonephritis is 14.8% and Nephrotic Syndrome (NS) is 14.3%. The remaining 15.5% is made up of glomerulonephritis (9.8%) and acute renal failure and other forms of renal disease (5.7%).

There is a need to control renal disease by public education. In the long term however it will be necessary to make possible for the treatment of patients in end-stage chronic renal failure with regular dialysis and transplantation in Ghana.

Keywords:
Renal disorders, limitations of management, Kumasi

INTRODUCTION

The high prevalence of chronic renal failure in Africa and in some other parts of the tropics probably reflects the high prevalence of variety of aetiological agents such as P. malariae, S. mansoni, S. haematobium, M. leprae and hepatitis B. Virus, all of which are known to be associated with glomerulonephritis and the nephrotic syndrome.[1] Giglioli[2] reports that there has been a marked decrease in the incidence of chronic forms of renal disease in Guyana after effective malarial control. Whittle[4] and Hendrickse[5], refer to the occurrence of epidemics of acute poststreptococcal glomerulonephritis in children of Africa and to the common association with impetigo and infected scabies.

The pattern of renal disease in any region or country is mainly determined by environmental factors. In the tropics, socio-economic and geographical influences, are of almost equal importance, although cultural factors, such as the use of lightening cream (mercurial cream) on the skin or of certain herbal medicines, may also play a role. Some genetically determined conditions such as sickle cell disease[6] and G6PD deficiency[7] may be directly or indirectly associated with functional and structural lesions in the kidney. Protein malnutrition is hyper-endemic in Ghana and Kidney lesions such as urinary tract infection and pyelonephritis are common in kwashiorkor.[5]

The incidence of renal disease among yearly admission in adult medical wards of Komfo Anokye Teaching Hospital is between 2-3%. The total yearly admission is about 5200.

The purpose of this work is to provide a baseline study of the common renal disorders which are seen on admission in the Komfo Anokye Teaching Hospital. The findings may be similar to those in order regions in the tropics. It points out the limitations of management of patients with chronic renal disorders and uraemia in Ghana, due partly to unavailability of regular dialysis and transplantation.

SUBJECT AND METHODS

From January 1988 till December 1990 data from 350 consecutive patients who came in admission to the adult medical wards of the Komfo Anokye Teaching Hospital, Kumasi with renal disorders were analysed. Only the patients who stayed in the wards longer than 3 days were included in the study. The diagnosis of a renal disease was based mainly on a clinical evaluation including chest radiograph and fundoscopy, haematological, urinalysis, and culture and sensitivity of urine, biochemical tests including blood urea, creatinine and serum protein were done routinely. Other investigations such as Intravenous Pyelography (IVP), biopsies and autopsies were done when possible.

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The major difficulty was in distinguishing between acute renal failure and acute on chronic renal failure. The most useful pointer to chronic disease in our experience was hypertension, particularly when complicated by retinopathy and or left ventricular hypertrophy. Uraemic pigmentation is undetectable in dark pigmented black skin and anaemia has too many causes in the tropics to be a useful indicator in renal failure. Radiographical or biochemical evidence of renal osteodystorphy was rarely encounted in the patients. It was difficult to detect renal outlines and size on plain abdominal radiography and made increasing use of high dose urography for this purpose. The choice of treatment was dictated by clinical and biochemical consideration.[8] Appropriate antibiotics were given after culture and sentivity of the urine. Nephrotic Syndrome was treated with diuretics and or prednisolone. Cases of acute renal failure were referred to the renal unit at the Korle Bu Teaching Hospital, Accra.

RESULTS

Over a 3 year period, 350 patients were admitted into the adult medical wards of Komfo Anokye Teachintg Hospital with renal diseases. There were 152 males and 192 females between the ages 15 years and 85 years. Nine cases of acute renal failure were referred to the renal unit at the Korle Bu Teaching Hospital in Accra.

The commonest cause of admission was chronic renal failure with 28.0% (Table I).

Pyelonephritis was commonly found in elderly males (mean age 56.3 years) while it was also found most often among sexually active females with mean age 29.1 years (Table III)

DISCUSSION

There is a high rate of NS (32.2%) and AGN (31.7%) among the children with renal disorders admitted to the paediatric wards of Komfo Anokye Teaching Hospital

TABLE I: INCIDENCE OF RENAL DISEASE IN ADULT MEDICAL WARDS (N=350)

DISEASE	ADULT	MORTALITY
CRF (Chronic Renal Failure)	98.(28.0%)	40 (40.8%)
UTI (Urinary Tract Infection)	96 (27.4%)	2 (2.1%)
Pyelonephritis	52 (14.8%)	6 (11.5%)
NS (Nephrotic Syndrome)	50 (14.3%)	8 (16.0%)
CGN (Chronic Glomerulonephritis)	24 (6.9%)	-
AGN (Acute Glomerulonephritis)	10 (2.9%)	-
Others [ARF (Acute Renal Failure)		
Tumours, hydronephrosis		
Renal calculi]	20 (5.7%)	
TOTAL	350 (100%)	

TABLE 2: ANALYSIS OF RENAL DISEASES BY GENDER (OR SEX)

DISEASE	NO MALES	NO FEMALES	TOTAL	%
CRF	57	41	98	28.0%
UTI	26	70	96	27.4%
Pyelonephritis	21	31	52	14.8%
NS	24	26	50	14.3%
CGN	13	11	24	5.7%
AGN	6	4	10	2.9%
ARF	5	4	9	2.6%
Others	6	5	11	3.1%
TOTAL	158	192	350	100%

TABLE 3: MEAN AGE GROUP AND RENAL DISEASES

DISEASE	MALE (AGE IN YEARS)	FEMALE (AGE IN YEARS)
Pyelonephritis	56.3 (17-85)	29.1 (17-60)
UTI	36.0 (16-85)	23.5 (15-46)
CRF	36.4 (17-60)	35.9 (19-70)
NS	35 (15-57)	23.9 (15-49)
CGN	30.5 (15-43)	23.0 (16-40)

(unpublished data; Baffoe Bonnie et al). The high incidence of CRF (28.0%) among young adults may be the result of childhood renal disorders which have not been diagnosed, treated and followed up because of socio-economic problems. It is likely that improved nutrition, improved hygiene, especially as it relates to control of skin sepsis, and the control of malaria and Schistosomiasis will lead to a significant reduction in renal disease. Such a situation existed in Guyana after malaria control. [2,3]

UTI and pyelonephritis are common renal disease among young adult females and older adult males. In some cases there was a close association with Diabetes mellitus, an enlarged prostate gland and urethral stricture. Ureteric abnormality may play an important role since Schistosomiasis both haematobium and mansoni is endemic in Kumasi and the surrounding villages but most of the cases are diagnosed and treated at the out-patients' department with praziquantel or Niridazole.

Patients who present with chronic renal failure and hypertension are a common problem in the medical wards

of many tropical hospitals including those of Kumasi. There is a high mortality rate of 40.8% in Komfo Anokye Teaching Hospital due to the frequency of terminal ureamia and the fact that there is no possibility of managing such patients with regular dialysis or transplantation.

The prognosis of NS is poor and the mortality rate (16%) is high. This is similar to the findings of Kibukamusoke,[9] Gilles and Hendrickse[10] who found that in West and East Africa nephrotic syndrome usually occurs in association with P. malariae and most patients with this disease have shown a poor response to all forms of treatment and therefore have high mortality and poor prognosis as well.

In the present state of the economy and the development of medical services, regular dialysis and transplantation facilities cannot be provided throughout Ghana. There is therefore the need to control renal disease by vigorous public education in line with the primary health care concept of hygiene, sanitation, healthy diet and education for good health. UTI is common and it may eventually lead to chronic renal failure with its attendant high mortality. It is often suggested that routine urinalysis should be done in all febrile patients at the primary health care level. In the long term however it will be necessary to make provision for the treatment of chronic renal disease with regular dialysis and transplantation for those patients whose disease could not be prevented and are admitted in chronic renal failure.

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