Asymptomatic proteinuria and/or haematuria in 265 Malaysian adults

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Summary

Two hundred and sixty five patients with asympatomatic proteinuria and/or haematuria were studied at the Department of Medicine, Universiti Kebangsaan Malaysia and Department of Nephrology, General Hospital Kuala Lumpur. They represented 25.4% of all the renal biopsies performed during the period 1980–88. All the three races were affected with 71.3% occurring between the ages of 20–39 years and 41.1% were detected during routine medical examination. Excluding those patients with lupus nephritis, IgA nephropathy was the commonest histological diagnosis (51.7%). The presence of severe and advanced histological changes in a significant number of biopsies emphasises the need for more effective screening and early referral of this group of patients.

Key words: Asymptomatic proteinuria, haematuria

Introduction

Asymptomatic proteinuria and/or haematuria may be the initial presentation of an underlying glomerulonephritis. It is a common reason for a nephrological referral and the majority of these patients are identified during routine medical examination prior to entering the armed forces, universities or employment. Most cases of urinary abnormalities are due to primary glomerulonephritis but these may also be part of a systemic illness such as diabetes mellitus or systemic lupus erythematosus.

Accurate assessment is important and this usually requires a renal biopsy. In addition to allaying the anxiety of affected patients, an accurate histopathological diagnosis can provide information on long term prognosis and natural history of the respective types of glomerulonephritis.

This paper reports on the clinicopathological findings of Malaysian adults presenting with asymptomatic proteinuria and/or haematuria in our two units.

Materials and Methods

This is a retrospective study of all renal biopsies performed for asymptomatic proteinuria and/or haematuria in the Department of Medicine, UKM and Department of Nephrology, GH, Kuala Lumpur between 1980–1988.

Patients included were at least 13 years of age and the degree of proteinuria was less than 1g/day. Haematuria was considered present when the dipstick was positive or when three red blood cells were detected per high power field microscopically in males or greater than five red blood cells in clean catch urine samples in females. Except for SLE, all patients with other systemic diseases and orthostatic proteinuria were excluded.

Closed renal biopsy was performed on all patients using a disposable Trucut needle. Tissue obtained was examined with light and immunofluorescence microscopes using antisera against IgG, IgM, IgA, C_3, C_4 and fibrin. Only those specimens with at least six glomeruli were included.

Results

Clinical features: A total of 265 patients were included in this study. This represented 25.4% of the 1045 renal biopsies performed for primary glomerulopathy and lupus nephritis during the same period. Of these, 109 patients (41.1%) were detected during routine medical examination. There were 126 (47.5%) males and 139 (52.5%) females; 120 (45.3%) were Malays, 115 (43.4%) were Chinese, 26 (9.8%) were Indians and four (1.5%) were others.

The indications for renal biopsy were asymptomatic haematuria in 22 patients (8.3%), asymptomatic proteinuria and haematuria in 100 patients (37.7%) and asymptomatic proteinuria alone in 143 patients (54.0%).

The distribution by age is shown in Table 1.

Table I
Asymptomatic proteinuria/haematuria in 265 Malaysian adults: Distribution by age

Age	No (%)
13 – 19	35 (13.2)
20 – 29	101 (38.1)
30 – 39	88 (33.2)
40 – 49	21 (11.7)
50 – 59	9 (3.4)
> 60	1 (0.4)
Total	**265 (100.0)**

One hundred and eighty-nine (71.3%) of the patients were between the ages of 20 – 39 years.

Histopathological findings: Of the total of 265 patients studied, 60 (22.6%) had lupus nephritis. The rest had either primary glomerulonephritis or IgA nephropathy. The histological findings in patients with lupus nephritis is shown in Table 2.

Table 2
Asymptomatic proteinuria/haematuria in 60 Malaysian adults with lupus nephritis

Histological Type	No (%)
Minimal change GN	5 (8.3)
Mesangial GN	7 (11.7)
Focal proliferative GN	14 (23.3)
Diffuse proliferative GN	14 (23.3)
Membranous GN	20 (33.4)
Total	**60 (100.0)**

When compared to an unselected population of lupus nephritis the histological findings were not severe, as patients with minimal change, mesangial GN and membranous GN tended to have a stable and non-progressive course.

Of 205 patients, 106 (51.7%) were diagnosed to have IgA nephropathy and 99 (48.3%) had primary glomerulonephritis.

The histological findings of the former group is shown in Table 3.

Table 3
Asymptomatic proteinuria/haematuria in 106 Malaysia adults with IgA nephropathy

Histological Type	No (%)
Mesangial proliferative GN	39 (36.8)
Focal proliferative GN	22 (20.7)
Focal glomerulosclerosis	22 (20.7)
Global glomerulosclerosis	13 (12.4)
Minimal change	10 (9.4)
Total	**106 (100)**

There was a wide range of histopathological findings. In conformation with experience elsewhere the commonest histological types are focal proliferative and diffuse mesangial proliferative GN. It is important to note that 35 patients had significant glomerulosclerosis in the biopsies suggesting that these patients were presenting late in their disease.

The histopathological findings of the 99 patients with primary glomerulonephritis is shown in Table 4.

Table 4
Asymptomatic proteinuria/haematuria in 99 Malaysian adults with primary glomerulonephritis

Histological type	No.
Minimal change	17
Focal proliferative GN	5
Focal glomerulosclerosis	33
Membranous GN	15
Endocapillary GN	1
Mesangial GN	14
Mesangio capillary GN	5
Chronic GN	2
Total	**99**

Again there is a wide range of histopathological findings in this group with the commonest being focal glomerulosclerosis.

Discussion

Our clinicopathological results indicate that asymptomatic urinary abnormalities are a common mode of presentation of an underlying glomerulonephritis. As in an earlier report[1] a large number of these patients are detected only during routine medical examination prior to employment, military services, life-insurance assessment or on entering the universities. Thus a substantial number may go undetected until they present later with more severe renal diseases such as hypertension, nephrotic syndrome and chronic renal failure. The early detection and identification of the underlying type of glomerular disease is extremely important as some of these diseases can be effectively treated. Even in the absence of specific treatment, the development of chronic renal failure requiring dialysis or transplantation can be substantially delayed by proper control of hypertension and dietary and pharmacological intervention to reduce hyperfiltration in the kidneys. The introduction of mass urinary screening by the government as part of the preventive health programme is certainly feasible and desirable and this may go a long way to reduce the morbidity and mortality from chronic renal failure in Malaysia.

As a single group, IgA nephropathy is the commonst cause of asymptomatic proteinuria/haematuria in Malaysian adults. This has been the experience of many countries.[2-4] Initially considered a benign disease, most reports including our local results[5] suggest an indolent progression to chronic renal failure in many patients. The large number of IgA nephritis patients in this report who were young but yet had significant glomerulosclerosis lends support to the above statement.

In conclusion asymptomatic proteinuria and/or haematuria is an important indicator of underlying glomerular disease. Its early detection is important and should lead to an immediate nephrological consultation where upon accurate histological diagnosis, appropriate treatment may be initiated to prevent or delay progression of the disease to chronic renal failure.

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