

Clinical And Histopathologic Study Of Nephrotic Syndrome In Adults.

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Background and objectives: The nephrotic syndrome is a clinical entity characterized by massive proteinuric and abnormalities like hypoalbuminemia, edema and hyperlipidemia. It is also often associated with a hypercoagulable state.

Objective of the study are to do renal biopsies in all cases of adult nephritic syndrome and to study the histological presentation by light microscopy in all cases and whenever indicated and possible by electron microscopy and immunofluorescence and the different modes of clinical presentation of nephrotic syndrome with their co-relation with histopathological appearance along with outcome of the patients with standard protocol of treatment.

I. Methodology

Inclusion criteria:1) Adults with nephrotic syndrome age > 14yrs.

2) No episodes of nephrotic syndrome in childhood.

3) a) Urinary protein excretion more than 3.5g/24hrs.

Or

b) Urinary protein to creatinine ratio more than 3.5 on spot sample of urine.

Or

c) Heavy proteinuria on a spot sample of urine with a serum albumin of less than 2.5g/dl.

Exclusion criteria: evidence of diabetic nephropathy as suggested by other target organ such as diabetic retinopathy.

Following investigations were performed:

Urine: routine

Urine for 24hr protein

Urine: protein to creatinine ratio

CBC

BT,CT,PT,Platelet count

HIV, HBsAg

Renal profile

USG of KUB region

Other serological investigations like ASLO, ANA, serum compliments.

Kidney biopsy.

Procedure for kidney biopsy

Biopsy was done using a tru biopsy needle. In all patients biopsy was done under ultrasound guidance.

Patients were put in the prone position and the lower pole of kidney located by the ultrasound. The site was infiltrated with lignocaine 2% and lumbar puncture needle was then inserted in the same site, till it pierced the cortex. This was confirmed by the movement of the L.P needle with respiratory excursions. Then the renal capsule and track for biopsy were anaesthetized by injecting lignocaine through the LP needle as it was being removed. The tru cut needle was then inserted along the same track for the same depth and tissue sent for histopathology.

Patients were advised bed rest for next 24 hrs during their vital signs were frequently monitored. Also a careful catch for haematuria was kept.

Treatment

Apart from general measures the patients were treated based on their histological type. All the minimal change lesion cases were treated with corticosteroids and so were some cases of mesangial proliferation glomerulonephritis. Patients with MPGN were put on antiproteinurics like ACE inhibitors and antiplatelets like dipyridamole. Patients with membranous nephropathy were advised ponticelli regimen consisting of cycles of prednisolone and chlorambucil.

Patients with RPGN were treated with IV methylprednisolone.

Patients with SLE were treated based on their histological class including pulse cyclophosphamide and steroids. Patients who went into renal failure were started on haemodialysis.

II. Results

This is a study of 40 cases of nephrotic syndrome admitted to KLE hospital belgaum. The mean age of the patients in this study was 37.7yrs of which 27(67.5%) of the patients were male and 13(32.5%) were females. The incidence of primary nephrotic syndrome and idiopathic glomerulonephritis was 70% and the incidence of secondary nephrotic syndrome was 30%. Most common mode of presentation was with edema. The incidence of hypertension and microscopic haematuria was less in patients with minimal change nephrotic syndrome. The average 24hr protein excretion rate was 3.95g/day. Hypoalbuminemia was present in 92.5% of patients with an average of 1.97g/dl. Hypercholesterolemia was present in 80% of patients with an average value of 325.9mg/dl. Serum creatinine was elevated in 19 patients(47.5%). Best prognosis was seen in cases of minimal change nephrotic syndrome with a remission attained in 75% of cases. Total of 7 patients were started on maintenance haemodialysis. A total of 5 patients expired during the course of follow up.

III. Conclusion

1. Renal biopsy is essential for the treatment and prognostication of adults with nephrotic syndrome.
2. Commonest mode of presentation is edema in all cases. However the incidence of hypertension, microscopic haematuria and azotemia is less in cases of minimal change nephrotic syndrome when compared to the overall incidence.
3. Adults with minimal change nephrotic syndrome show good response to steroids whereas the outcome in other types is not so favourable.
4. Patients presenting as nephrotic syndrome can have underlying RPGN which if not recognized early can lead to end stage renal disease. Hence there is an urgent need to recognize, investigate and treat such patients.

References

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