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# An Overview of Rare Case Report of IgA Nephropathy

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## I. INTRODUCTION

IgA Nephropathy, a widespread form of Glomerulonephritis , characterized by episodic hematuria associated with the deposition of IgA in the mesangium . It predominately affects males with a ratio of 3:1 , a peaking in 2nd and 3rd decades of life. Elevated levels of circulating poorly O-galactosylated IgA1 and O-glycan antibodies forms of IgA1 immune complex molecules and its mesangial deposits cause inflammation and glomerular injury. This condition is common in children and young people, and gives rise to asymptomatic microscopic haematuria and sometimes proteinuria. About 5% of patients develop nephrotic syndrome. Usually, however, the prognosis is favourable.

## II. CLINICAL FINDINGS

A 33yr old male, Mr. Ananthan presented with Bilateral Leg swelling for 3 weeks and with General fatigue for 3 days and he observed reddish color urine episodes 1 week back .He has been hypertensive and diabetic since 1 month.He is Chronic Alcoholic since 12 yrs .

On examination, he was conscious, oriented and had pallor & bilateral Lower Limb pitting edema . With a notable blood pressure around 150/90mmHg .Cardio vascular system examination revealed S1, S2 sounds .Respiratory system examination: Normal vesicular breath sounds heard.Per abdomen examination: soft, bowel sounds present with no organomegaly .Central nervous system examination: no focal neurological deficit.

His lab reports revealed blood urea of 50mg/dl and serum creatinine of 1.6mg/dl .Urine analysis shows straw yellow color urine with proteinuria &Positive hematuria,24 hr Urine protein – 6.47 g/day.Renal Biopsy Report reveals normal cortex and medulla. Immunohistochemistry showed small IgA(3+) mesangial deposits in the glomeruli. Under Light microscopy – Glomeruli show increase in mesangial cellularity.

## III. DISCUSSION

IgANephropathy is characterized by episodic hematuria associated with the deposition of IgA in the mesangium.

Hematuria is the earliest sign and Hypertension can also be associated with this disease .Proteinuria can also occur but is usually a later feature. A particular hallmark of IgA Nephropathy in young adults is the occurrence of acute self-limiting exacerbation, and often with hematuria. Renal biopsy identifying IgA1 deposits is the definative diagnostic method. Other mesangial deposits like C4D and IgA subepithelial deposits have also been occasionally seen in early nephropathy. 30 to 40% of patients advancing to end stage kidney disease within twenty years of diagnosis. Ten-year kidney survival rates can be as low as 35% in some parts of the world.

Treatment primarly involves immunosuppressants and supportive measures to control blood pressure. Due to heterogeneity and the complex pathogenesis of the disease research is still going on.

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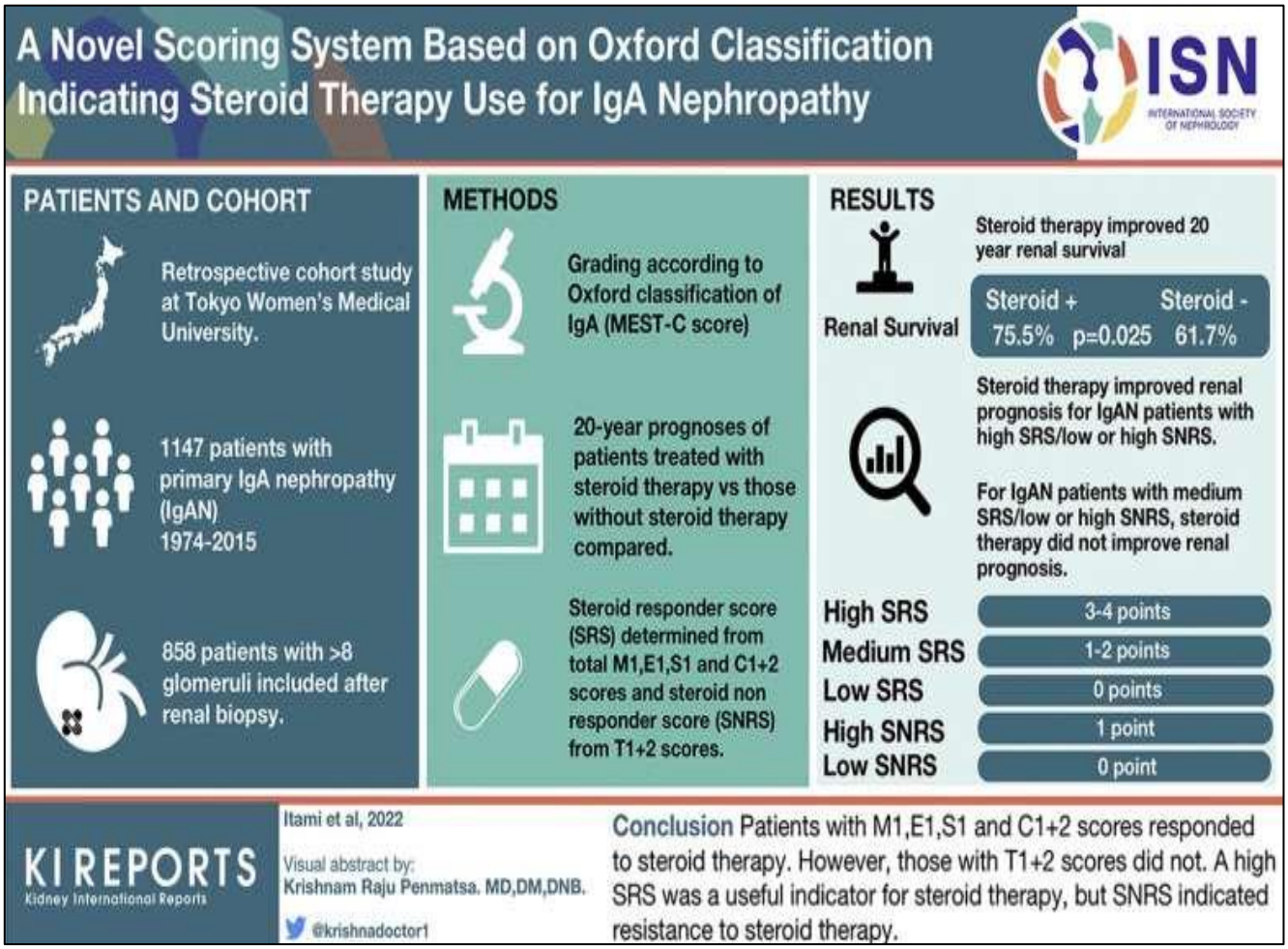


Fig 1 Novel Scoring System

Table 1 Oxford Classification of IgA Nephropathy

OXFORD CLASSIFICATION OF IGA NEPHROPATHY

| MEST | DESCRIPTION | SCORE |
|---|---|---|
| M | Mesangial Hypercellularity | M0: <50% Glomeruli<br>M1: >50% Glomeruli |
| E | Endocapillary Hypercellularity | E0: Absent<br>E1: Present |
| S | Segmental Glomerulosclerosis | S0: Absent<br>S1: Present |
| T | Tubular Atrophy | T0: Absent or <25% tubules<br>T1: 26-50% tubules<br>T2: >50% tubules |
| C | Crescent | C0: Absent<br>C1: 1-24% Glomeruli<br>C2: >25% |

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## IV. CONCLUSION

There is no agreement on optimal treatment. Some studies support the use of ACE inhibitor/ ARB's in patients with proteinuria or declining renal function. In patients with persistent proteinuria after ACE inhibitor therapy, steroid treatment can also be given.

In High risk cases, Glucocorticoid (Prednisolone 0 .5mg/kg) for 6 month can be given.

## V. ADDITIONAL INFORMATION:

Consent: Informed consent was obtained from the study participant for publication.

Conflicts of interest: Nil

Funding: Nil

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**Table 2: Diagnostic assessment**

| ***Investigation*** | ***Value*** |
|---|---|
| *WBC* | 9600 Cells / cu mm |
| *Hb* | 16.3 g/ dl |
| *Platelet* | 4.9lakhs plt / micro L |
| *urea* | 52 mg/dl |
| *creatinine* | 1.6 mg/dl |
| *Urine anaysis* | |
| *color* | Straw yellow |
| *protein* | +++ |
| *RBC* | Present |
| *Ketones* | Negative |
| *PCR* | 0.6 |
| *24hr Urine protein* | 6.47g/day |
| *Immunoflouroscence* | IgA(3+) On mesangium |
| *Light microscopy* | Glomeruli show increase in mesangial cellularity |

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**Renopath**
Center for Renal and Urological Pathology Pvt Ltd

MC-2331

| PATIENT INFORMATION | | PHYSICIAN INFORMATION |
|---|---|---|
| PATIENT NO | : 0100052758 | Shri Sathya Sai Medical College, Kanchipuram |
| NAME | : Mr. ANANTHAN | Dr.THOMAS JOSEPH |
| AGE/GENDER | : 33 Y / Male | |
| SAMPLE No | : 01006579 / 2023 | |
| COLLECTION DATE | : 28/09/2023 00:00:00 | |
| RECEIVED DATE | : 28/09/2023 13:40:28 | |
| REPORT DATE | : 29/09/2023 18:16:07 | |

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**LIGHT MICROSCOPY**

Haematoxylin and eosin stained sections and special stains (PAS,Jones methenamine silver and Masson trichrome) include only a small portion of renal cortex.

Three glomeruli are identified, none are globally sclerotic.

Glomeruli show increase in mesangial cellularity. Segmental endocapillary hypercellularity is noted in one glomerulus. Glomerular basement membrane shows no spikes or double contour. No segmental sclerosis, crescent formation or necrotizing lesion seen.

There is no significant interstitial inflammation or interstitial fibrosis and tubular atrophy.

Artery shows mild medial hypertrophy.

**DIAGNOSIS**

**IgA nephropathy**

*** End of Report ***

Final Diagnosis Performed by

Door No.27 & 28, VMT Nagar, Kolathur, Chennai - 600 099. (Near DRJ Hospital)
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Fig 2 Light Microscopy Report

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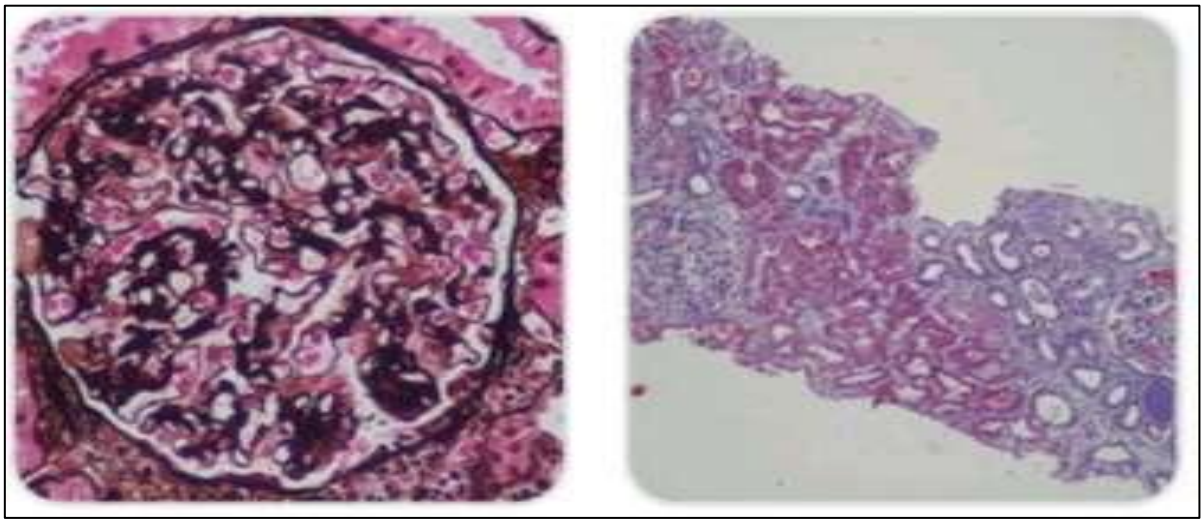

Fig 3 Light Microscopy Image of IgA Nephropathy

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## HISTOPATHOLOGY REPORT

RENAL BIOPSY LM+IF (NATIVE)

**SPECIMEN: Renal Biopsy**

**CLINICAL HISTORY**

The patient is a 33 year-old male with nephrotic syndrome. He has 3+ proteinuria. His s.creatinine is 1.6mg/dl, 24hrs urine protein is 6.4g/day and urine protein creatinine ratio is 0.6.

**GROSS DESCRIPTION**

Received from Shri Sathya Sai Medical College, Kanchipuram, 2 specimen bottles, one of formalin and the other Michel's medium along with the clinical details of the patient labelled Mr. ANANTHAN (33 Y / M).

In formalin is one piece of tissue measuring 0.2 cm, submitted in its entirety for light microscopy.

In Michel's medium are two pieces of tissue measuring 0.6 & 0.6 cms, submitted in its entirety for immunofluorescence microscopy.

**IMMUNOFLUORESCENCE**

6 glomeruli are present for evaluation. The sections are stained for IgG, IgM,IgA,C3,C1q,Kappa& Lambda light chains. IgA (+3) and C3 (+2) are positive on the mesangium. No light chain restriction seen. Rest of the antisera are negative.

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Fig 4 Histo Pathology Report

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Fig 5.Immunofluoroscence image of IgA Nephropathy