Comparative study between Primary and Secondary Focal Segmental Glomerulosclerosis
A Single Centre Experience

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Introduction

- Focal Segmental Glomerulosclerosis (FSGS) is a common histological diagnosis encompassing variety of clinical presentations.
- Main verities include primary which can be genetic or due to presence of 'circulating factor'. Secondary FSGS is due to loss of significant nephron mass and resulting hyper filtration injury.
- Immunohistochemistry shows presence of IgM and C3 deposition in primary FSGS which are typically absent in secondary FSGS.
- Full blown nephrotic presentation (proteinuria, oedema, hyperlipidaemia , and hypoalbuminaemia) and increased risk of VTE are common in primary FSGS and relentless progression to end stage renal disease (ESRD) is common though immunosuppression has been used with success for treatment.
- 'Nephrotic syndrome' is rare in secondary FSGS and Main stay of treatment is rennin angiotensin aldosterone system (RAAS) blockade. Progression to ESRD is less frequent and slow process.
- Given these different outcomes, it is essential to differentiate between primary and secondary FSGS and treat accordingly.
- Although both primary and secondary FSGS are common, published data lacks comparative studies.
- In this study we compared degree of proteinuria, serum albumin, response to RAAS blockade, incidence of thrombo-embolism and incidence of ESRD.

Methods

- This is a retrospective review of 51 patients with biopsy proven FSGS diagnosed between 1997–2008.
- Data regarding demographics, laboratory parameters, treatment details, incidence of thrombo-embolism and patient outcomes were collected.

Results

- Total number of Primary FSGS – 41
- Total number of Secondary FSGS - 10
- Average age at presentation was 50.33 ± 10.26 years and 54% were male.
- The follow up period was 2678.30 ± 1627.6 days.
- RAAS blockade therapy was initiated in 90% of secondary FSGS and in 76.19% of primary FSGS.
- Differences in the clinical features, laboratory parameters and outcomes are presented in Table-1.

Parameters	Primary FSGS	Secondary FSGS	P Value
Baseline Creatinine	203.9 ± 198.3	165.4 ± 83.42	P < 0.0001
Baseline Proteinuria	7.07 ± 5.5	2.5 ± 1.5	P < 0.0001
Baseline Albumin	31.87 ± 8.91	41 ± 2.8	P < 0.0001
Pedal Oedema	27	4	P = 0.0936
Progress to ESRD	17	2	p=0.03
Incidence of VTE	3	0	p=0.08

Conclusions

In this study,
1] Classical nephrotic presentation was more common in Primary FSGS.
2] Response to RAAS blockade was superior in Secondary FSGS.
3] Thrombo-embolism was absent in Secondary FSGS.

Limitation

1] Relatively small sample size, particularly secondary FSGS cases, which reflects practice of not biopsing patients clinically suspected to have secondary FSGS
2] Retrospective study.

We are in the process of combining data from two Renal centres to increase the sample size.

51ERA-EDTA
351--MP
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DOI: 10.3252/pso.eu.51era.2014
Poster presented at: 51 ERA-EDTA CONGRESS AMSTERDAM 2014
PosterSessionOnline.com