

# Recurrence Of Focal Segmental Glomerulosclerosis Among Kidney Transplant Recipients: Kuwait Experience

## Authors:

Osama Gheith, Zakaryia Elsayed, Zoheer Fayyad, Mohamed Shaker, Medhat Alawady, Nabil Alserwy, Prasad Nair, Khaled Abdultawab, Mohamed Balaha, Ayman Nagib, Hasaneen Aboatteya, and Torki AlOtaibi.



**TTS 2024** ISTANBUL TURKEY  
September 22-25  
30<sup>th</sup> International Congress of The Transplantation Society



The  
**Transplantation**  
Society

Organized in Partnership with



Endorsed by



# Background and aim of the study

- **Post-transplant FSGS is a major risk factor for graft loss. We therefore aimed to assess patients with FSGS in our cohort of kidney transplant recipients.**

# **Patients and methods**

- In this retrospective study that aimed to investigate glomerular disease recurrence post-transplantation.**
- Kidney transplant recipients (KTR) were screened for the diagnosis of FSGS between 1996 and 2023 and details were recorded about the transplant, clinical outcomes, treatments, and other risk factors.**

# Results

- **Among 3670 KTR screened for FSGS, 106 were identified to have FSGS as original kidney disease.**
- **Of them, 52 had a diagnosis of idiopathic FSGS. Most of the patients were Kuwaiti males who received their grafts from living donors (84.9%). Prophylactic plasma exchange (PE) was performed in 19 (38%). All patients were maintained on CNI based triple immunosuppression.**

# Results

- **FSGS recurrence was confirmed in 10 patients (17.5%). PE and rituximab were the most frequent treatment options (7 out of 10 patients received PE and rituximab) and 4 patients had recurrence despite prophylactic PE and rituximab. The remaining patients were managed by anti-proteinuric agents.**
- **At one year follow-up, complete remission was observed in 5 patients while the remaining showed partial remission. Two patients lost their grafts within 2 years while the remaining 8 are enjoying stable graft function. Patient or graft outcomes were comparable between primary and secondary FSGS cases( $P>0.05$ ).**

**Table 1: Showed the some of the demographics of the studied population.**

	1 <sup>ry</sup> FSGS(N=57)		2 <sup>ndry</sup> FSGS (N=52)		P value
	Number	%	Number	%	
<b>Mean age at transplant(years)</b>	<b>40.9±15.3</b>		<b>39.7±18.9</b>		<b>0.04</b>
<b>Dialysis mode</b>					
<b>Preemptive</b>	<b>14(24.6)</b>		<b>12(23.1)</b>		
<b>Hemodialysis</b>	<b>38(66.8)</b>		<b>37(71.1)</b>		
<b>Peritoneal dialysis</b>	<b>5(8.8)</b>		<b>3(5.8)</b>		<b>0.42</b>
<b>Immunosuppression</b>					
<b>Induction:</b>					
<b>None</b>	<b>8(14)</b>		<b>6(11.5)</b>		
<b>Basilixmab</b>	<b>17(29.8)</b>		<b>9(17.3)</b>		
<b>Lymphocyte depleting agents</b>	<b>23(40.4)</b>		<b>22(42.3)</b>		
<b>Others</b>	<b>9(15.8)</b>		<b>15(28.8)</b>		<b>0.38</b>
<b>Immediate graft function</b>					
<b>Immediate</b>	<b>40(72.7)</b>		<b>28(54.9)</b>		
<b>Slow</b>	<b>9(16.4)</b>		<b>12(23.5)</b>		
<b>DGF</b>	<b>4(7.3)</b>		<b>4(7.8)</b>		
<b>Unknown</b>	<b>2(3.6)</b>		<b>7(13.7)</b>		<b>0.159</b>

**Table 2: Showed post-transplant complications in the studied patients**

Variables:	1 <sup>ry</sup> FSGS(N=57)		2 <sup>nd</sup> FSGS (N=52)		P value
	Number	%	Number	%	
<b>Post-transplant complications:</b>					
BK viremia	9(17.3)		7(14.0)		0.646
BK nephropathy	3(5.7)		1(2.0)		0.337
CMV viremia	10(23.8)		15(40.5)		0.111
NODAT	14(26.4)		12(24)		0.77
Mean rejection episodes	1.71±1.68		1±1		0.22
<b>Graft outcome</b>					
Functioning	50(87.7)		43(82.7)		0.45
Failed	7(12.3)		9(17.3)		
<b>Patient outcome</b>					
Living	57(100)		48(92.3)		0.11
Dead	0(0)		2(3.8)		
Lost follow up	0(0)		2(3.8)		

**Table 3:** Showed numerical parameters of the studied patients

<b>Variables</b>	<b>No recurrence FSGS (N=47) Number ± SD</b>	<b>Recurrent FSGS (N=10) Number ± SD</b>	<b>P value</b>
<b>FSGS treatment”</b>			
<b>ACEi/ARB (number / %)</b>	<b>21(44.7)</b>	<b>4(40)</b>	<b>0.78</b>
<b>PE (number / %)</b>	<b>17(36.2)</b>	<b>7(70)</b>	<b>0.049</b>
<b>Rituximab (number / %)</b>	<b>11(23.4)</b>	<b>7(70)</b>	<b>0.004</b>
<b>PE sessions(mean/SD)</b>	<b>6.3(2.8)</b>	<b>11(8.03)</b>	
<b>Pre-transplant weight (kg)</b>			
<b>Plasma exchanges</b>	<b>17(36.2)</b>	<b>7(70)</b>	<b>0.049</b>
<b>PE number</b>	<b>6.33±2.8</b>	<b>11±8.03</b>	<b>0.38</b>
<b>Weight at last follow up(kg)</b>			



**Table 4:** Showed follow up parameters of the studied patients

<b>Variables</b>	<b>No recurrence FSGS (N=47) Number ± SD</b>	<b>Recurrent FSGS (N=10) Number ± SD</b>	<b>P value</b>
<b>Serum creatinine (umol/L)</b>			
Basal	124±77	150±73	0.33
3 months	108±38	117±35	0.48
6 months	106±39	189±160	0.003
1year	107±38	192±104	0.003
Last follow up	144±125	202±144	0.24
<b>Proteinuria (g/24hours)</b>			
Basal	0.91±0.82	1.3±1	0.205
3 months	0.26±0.44	1.5±2	<0.001
6 months	0.31±0.66	1±1.22	0.019
1year	0.37±0.71	1±1.5	0.059
Last follow up	0.79±1	1.9±1.1	0.004

## Conclusions

- We reported lower rate of recurrence of idiopathic FSGS in our cohort (15.3 %) and the comparable patient and graft outcomes might be due to the our adopted optimized immunosuppressive regimen.