

Chronic Kidney Disease (CKD) Patient

Patient Overview

Mrs. Z is a 72-year-old Malay female diagnosed with **Chronic Kidney Disease (CKD)**. She began **CRT-REDOX** treatment on October 2, 2021, and continues treatment to date. Her kidney function has shown improvement and remains stable.

Treatment Timeline

- **Treatment initiated** on 02.10.21 with **CRT-REDOX**, marking the start of ongoing renal support therapy.
- CRT-REDOX treatment has been continued through successive treatment phases with sustained follow-up and monitoring.
- CRT-LUMINA treatment was introduced where indicated in the documented treatment course, reflecting continuation and adjustment of therapy based on clinical progress.
- Treatment has been maintained continuously from 2021 to the present date, indicating long-term adherence to the prescribed regimen.
- Overall, her current health status is stable.

Current Status Summary

Since treatment initiation, her renal function has demonstrated sustained improvement with subsequent stabilization, suggesting a favorable clinical response and ongoing benefit from continued monitoring and management. Her course to date indicates maintained treatment tolerance, preserved clinical stability, and no documented deterioration in kidney status during follow-up.

Treatment Documentation

The following tables provide a comprehensive record of treatment visits, dosing schedules, and clinical progress:

CRT-LUMINA X	CRT-REDOX X	CRT-REDOX X (1)	FRT	INJ CORTISONE 40MG/ML	LAB TEST X	UFEME + U-CS	VAT						
Type of Immunisation	DOSE 1	DOSE 2	DOSE 3	DOSE 4	DOSE 5	DOSE 6	DOSE 7	DOSE 8	DOSE 9	DOSE 10	DOSE 11	DOSE 12	
1-C	02/10/21	07/10/21	16/10/21	23/10/21	30/10/21	06/11/21	13/11/21	20/11/21	27/11/21	04/12/21	09/12/21	24/12/21	
2-C	30/12/21	15/01/22	29/01/22	12/02/22	26/02/22	12/03/22	26/03/22	17/05/22	02/06/22	18/06/22	02/07/22	22/07/22	
3-C	05/08/22	09/09/22	23/09/22	07/10/22	29/10/22	30/11/22	30/12/22	20/01/23	01/03/23	07/04/23	15/05/23	26/06/23	
4-C	10/07/23	21/07/23	19/08/23	23/09/23	17/10/23	28/10/23	04/11/23	10/11/23	18/11/23	25/11/23	08/12/23	12/01/24	
5-C	03/02/24	08/03/24	10/05/24	16/07/24	20/08/24	01/10/24	26/11/24	23/01/25	18/02/25	07/05/25	12/09/25	30/10/25	

CRT-LUMINA X	CRT-REDOX X	CRT-REDOX X (1)	FRT	INJ CORTISONE 40MG/ML	LAB TEST X	UFEME + U-CS	VAT						
Type of Immunisation	DOSE 1	DOSE 2	DOSE 3	DOSE 4	DOSE 5	DOSE 6	DOSE 7	DOSE 8	DOSE 9	DOSE 10	DOSE 11	DOSE 12	
1-C	27/11/25	06/02/26	28/04/26	01/07/26									
2-C													
3-C													
4-C													
5-C													

Table 1.1: CRT-REDOX Treatment Record

CRT-LUMINA X	CRT-REDOX X	CRT-REDOX X (1)	FRT	INJ CORTISONE 40MG/ML	LAB TEST X	UFEME + U-CS	VAT						
Type of Immunisation	DOSE 1	DOSE 2	DOSE 3	DOSE 4	DOSE 5	DOSE 6	DOSE 7	DOSE 8	DOSE 9	DOSE 10	DOSE 11	DOSE 12	
1-C	28/10/23	04/11/23	10/11/23	18/11/23	25/11/23	08/12/23	12/01/24	03/02/24	08/03/24	10/05/24			
2-C													
3-C													
4-C													
5-C													

Table 1.2: CRT-LUMINA Treatment Record

centre	HTAR	KDK - GP	KDK - GP	KDK - GP	KDK - GP	KDK - GP	GN
test	15.04.21	11.09.21	07.10.21	30.10.21	27.11.21	31.12.21	Normal Range
UREA	11.2	11.4	-	14.0	18.7	11.4	2.8-7.2
CREATININE	158	171	-	183	173	158	45-84
e-GFR	28	26	-	24	26	29	>60
URIC ACID	-	0.5	-	0.41	0.34	0.43	155-357
SODIUM	-	143	-	142	138	142	136-146
POTASSIUM	-	4.7	-	4.9	5.1	4.4	3.5-5.1
CHLORIDE	-	106	-	103	103	107	101-109
CALCIUM	-	2.38	-	-	-	-	2.20-2.65
CORRECTED CALCIUM	-	2.26	-	-	-	-	2.1-2.6
PHOSPHORUS	-	1.48	-	-	-	-	0.81-1.45
MAGNESIUM, SERUM	-	-	-	-	-	-	0.77-1.03
Urine Albumin	-	-	2497.1	745.0	27.4	733.8	< 20
Urine Creatinine	-	-	17.39	14.58	7.12	13.09	0.9-26.5
ACR	-	-	143.6	51.7	3.8	56.1	<3.4
UTI Status	-	-	-	-	-	-	
CRT-REDOX+	-	-	D2	D5	D9	D13	
CRT-LIPON	-	-	-	-	-	-	
CRT-LUMINA	-	-	-	-	-	-	
centre	KDK - GP	KDK - GP	KDK - GP	KDK - INNO	KDK - INNO	KDK - GN	GN
test	26.02.22	26.03.22	07.05.22	18.06.22	22.07.22	07.10.22	Normal Range
UREA	14.3	13.5	11.3	-	11.8	15.5	2.8-7.2
CREATININE	132	140	157	-	165	166	45-84
e-GFR	36	34	29	-	27	28	>60
URIC ACID	0.32	0.36	0.41	-	0.36	400	155-357
SODIUM	144	145	142	-	142	139	136-146
POTASSIUM	4.9	5.0	-	-	4.7	4.4	3.5-5.1
CHLORIDE	108	111	105	-	107	107	101-109
CALCIUM	-	-	-	-	-	-	2.20-2.65
CORRECTED CALCIUM	-	-	-	-	-	-	2.1-2.6
PHOSPHORUS	-	-	-	-	-	-	0.81-1.45
MAGNESIUM, SERUM	-	-	-	-	-	-	0.77-1.03
Urine Albumin	258.7	1172.5	1152.3	900.5	291.2	329.6	< 20
Urine Creatinine	9.84	10.42	7.77	12.4	6.63	16.6	0.9-26.5
ACR	26.3	112.5	148.3	72.6	43.9	19.9	<3.4
UTI Status	-	-	-	-	-	-	
CRT-REDOX+	D17	D19	D19	D22	D24	D28	
CRT-LIPON	-	-	-	-	-	-	
CRT-LUMINA	-	-	-	-	-	-	

Table 2.1: Real-Time Laboratory Results (Part 1)

centre	KDK - GN	KDK - GN	KDK - GN	KDK-GN	KDK-GN	KDK-GN	GN
test	30.12.22	10.04.23	26.06.23	23.09.23	25.11.23	08.03.24	Normal Range
UREA	15.3	15.9	11.2	14.3	14.4	15.2	2.8-7.2
CREATININE	161	168	164	176	168	173	45-84
e-GFR	29	28	29	25	26	27	>60
URIC ACID	418	391	415	423	333	442	155-357
SODIUM	140	137	141	137	140	124	136-146
POTASSIUM	4.3	5.1	4.5	5.1	4.4	>10.0*	3.5-5.1
CHLORIDE	110	107	111	108	108	103	101-109
CALCIUM	-	-	2.22	-	-	-	2.20-2.65
CORRECTED CALCIUM	-	-	2.2	-	-	-	2.1-2.6
PHOSPHORUS	-	-	146	-	-	-	0.81-1.45
MAGNESIUM, SERUM	-	-	0.88	-	-	-	0.77-1.03
Urine Albumin	89.9	357.7	301.6	983.6	45.2	652.7	< 20
Urine Creatinine	7.8	7.2	13.4	17.7	5.6	11.2	0.9-26.5
ACR	11.5	49.7	22.5	57.9	8.1	59.3	<3.4
UTI Status	-	-	-VE	-	-	-	
CRT-REDOX+	D31	D34	D36	D40	D46	-	
CRT-LIPON	-	-	-	-	-	-	
CRT-LUMINA	-	-	-	-	D5	D9	
centre	KDK - GN	KDK - GN	HTAR	KDK-GN	KDK-GN	HTAR	GN
test	07.05.24	20.08.24	10.09.24	17.12.24	23.01.25	10.03.25	Normal Range
UREA	11.1	13.0	17.8	19.4	21.9	15.3	2.8-7.2
CREATININE	164	171	200	217	205	199.5	45-84
e-GFR	29	27	23	21	22	23	>60
URIC ACID	397	390	-	445	450	-	155-357
SODIUM	138	139	-	135	137	-	136-146
POTASSIUM	5.0	4.7	-	9.0*	4.7	-	3.5-5.1
CHLORIDE	108	109	-	109	108	-	101-109
CALCIUM	2.29	2.32	2.44	-	-	2.41	2.20-2.65
CORRECTED CALCIUM	2.3	2.3	-	-	-	-	2.1-2.6
PHOSPHORUS	1.33	1.43	-	-	-	-	0.81-1.45
MAGNESIUM, SERUM	0.88	0.97	-	-	-	-	0.77-1.03
Urine Albumin	1139.1	949.2	-	656.2	-	-	< 20
Urine Creatinine	9.5	17.3	-	22.8	-	-	0.9-26.5
ACR	119.9	54.9	-	28.8	-	-	<3.4
UTI Status	-VE	-VE	-	-	+VE	-	
CRT-REDOX+	-	D53	-	D55	D56	-	
CRT-LIPON	-	-	-	-	-	-	
CRT-LUMINA	-	D10	-	-	-	-	

Table 2.2: Real-Time Laboratory Results (Part 2)

centre	KDK-GN	KDK-GN	KDK-GN				GN
test	date	07.05.25	01.08.25	06.02.26			Normal Range
UREA		16.0	15.9	18.1			2.8-7.2
CREATININE		198	222	207			45-84
e-GFR		23	21	22			>60
URIC ACID		422	406	413			155-357
SODIUM		139	139	137			136-146
POTASSIUM		5.3	5.7	5.3			3.5-5.1
CHLORIDE		112	108	110			101-109
CALCIUM		2.22	-	-			2.20-2.65
CORRECTED CALCIUM		2.3	-	-			2.1-2.6
PHOSPHORUS		1.54	-	-			0.81-1.45
MAGNESIUM, SERUM		1.01	-	-			0.77-1.03
Urine Albumin		635.0	1554.3	236.6			< 20
Urine Creatinine		5.7	22.6	5.3			0.9-26.5
ACR		111.4	68.8	44.6			<3.4
UTI Status		-VE	-	-			
CRT-REDOX+		D58	D58	D61			
CRT-LIPON		-	-	-			
CRT-LUMINA		-	-	-			

Table 2.3: Real-Time Laboratory Results (Part 3)

e-GFR categories in CKD

GFR category	GFR (ml/min/1.73 m ²)	Terms
G1	> 90	Normal / High
G2	60 - 89	Mildly decreased
G3a	45 - 59	Mildly to moderately decreased
G3b	30 - 44	Moderately to severely decreased
G4	15 - 29	Severely decreased
G5	< 15	Kidney failure

Urine MicroAlbumin

Male - 2.5 - 25.0 mg/mmol

Female - 3.5 - 25.0 mg/mmol

*value >25.0 are indicative of macroalbuminuria and/or probably overt proteinuria

Table 3: Indicator for e-GFR and Urine Microalbumin