

# Chronic Kidney Disease (CKD) Patient

## Patient Overview

Mrs. L, a 74-year-old Indian female, was diagnosed with Chronic Kidney Disease (CKD) and has been undergoing comprehensive CRT treatment since August 2020.

## Treatment Timeline

- **CRT-REDOX** initiated: 27 August 2020
- **CRT-LUMINA** initiated: 14 June 2021
- **CRT-LIPON** initiated: 21 September 2021

## Current Status

Mrs. L is currently in the **Maintenance Phase**, receiving the complete **CRT-3C** protocol (all three treatments) on a monthly dosing schedule. Her kidney function has demonstrated measurable improvement and continues to remain stable.

## Treatment Documentation

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

| AB REGIME            | CRT-LIPON X            | CRT-LUMINA X           | CRT-REDOX X            | CRT-REDOX X (1)        | FBC + SWAB C <sub>S</sub> | FRT                    | INJ CORTISONE 40MG/ML  | LAB TEST X             | UBT4                    | UFEME + U-C <sub>S</sub> | 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                  | 27/08/20               | 04/09/20               | 11/09/20               | 19/09/20               | 26/09/20                  | 03/10/20               | 05/04/21               | 12/04/21               | 19/04/21                | 26/04/21                 | 03/05/21                | 25/05/21                |
| 2-C                  | 31/05/21               | 09/06/21               | 14/06/21<br>as REDOXIL | 21/06/21<br>as REDOXIL | 29/06/21<br>as REDOXIL    | 13/09/21<br>as REDOXIL | 21/09/21<br>as REDOXIL | 27/09/21<br>as REDOXIL | 04/10/21<br>as REDOXIL  | 25/10/21<br>as REDOXIL   | 08/11/21<br>as REDOXIL  | 22/11/21<br>as REDOXIL  |
| 3-C                  | 13/12/21<br>as REDOXIL | 10/01/22<br>as REDOXIL | 21/03/22<br>as REDOXIL | 11/04/22<br>as 3C      | 09/05/22<br>as 3C         | 27/06/22<br>as 3C      | 20/07/22<br>as 3C      | 22/08/22<br>as 3C      | 19/09/22<br>as 3C       | 16/11/22<br>as 3C        | 16/12/22<br>as 3C       | 20/01/23<br>as 3C       |
| 4-C                  | 21/02/23<br>as 3C      | 18/04/23<br>as 3C      | 18/05/23<br>as 3C      | 19/06/23<br>as 3C      | 17/07/23<br>as 3C         | 22/09/23<br>as 3C      | 26/10/23<br>as 3C      | 01/12/23<br>as 3C      | 09/01/24<br>as 3C       | 01/03/24<br>as 3C        | 19/04/24<br>as 3C       | 07/06/24<br>as 3C       |
| 5-C                  | 27/09/24<br>as 3C      | 09/12/24<br>as 3C      | 22/04/25<br>as 3C      | 22/07/25<br>as 3C      | 02/09/25<br>as 3C         | 21/11/25<br>as 3C      | 25/02/26<br>as 3C      | 20/05/26<br>as 3C      | 28/05/26<br>as 3C [1/6] | 04/06/26<br>as 3C [2/6]  | 11/06/26<br>as 3C [3/6] | 25/06/26<br>as 3C [4/6] |

| AB REGIME            | CRT-LIPON X             | CRT-LUMINA X            | CRT-REDOX X       | CRT-REDOX X (1) | FBC + SWAB C <sub>S</sub> | FRT    | INJ CORTISONE 40MG/ML | LAB TEST X | UBT4   | UFEME + U-C <sub>S</sub> | 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                  | 08/07/26<br>as 3C [5/6] | 24/07/26<br>as 3C [6/6] | 26/08/26<br>as 3C |                 |                           |        |                       |            |        |                          |         |         |
| 2-C                  |                         |                         |                   |                 |                           |        |                       |            |        |                          |         |         |
| 3-C                  |                         |                         |                   |                 |                           |        |                       |            |        |                          |         |         |
| 4-C                  |                         |                         |                   |                 |                           |        |                       |            |        |                          |         |         |
| 5-C                  |                         |                         |                   |                 |                           |        |                       |            |        |                          |         |         |

Table 1.1: CRT-REDOX Treatment Record

| AB REGIME            | CRT-LIPON X | CRT-LUMINA X      | CRT-REDOX X       | CRT-REDOX X (1)      | FBC + SWAB CS        | FRT                  | INJ CORTISONE 40MG/ML | LAB TEST X           | UBT4                 | 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                  |             | 21/09/21          | 27/09/21          | 04/10/21             | 25/10/21             | 08/11/21             | 22/11/21              | 13/12/21             | 10/01/22             | 21/03/22          | 11/04/22<br>as 3C | 09/05/22<br>as 3C | 27/06/22<br>as 3C |
| 2-C                  |             | 20/07/22<br>as 3C | 22/08/22<br>as 3C | 19/09/22<br>as 3C    | 16/11/22<br>as 3C    | 16/12/22<br>as 3C    | 20/01/23<br>as 3C     | 21/02/23<br>as 3C    | 18/04/23<br>as 3C    | 18/05/23<br>as 3C | 19/06/23<br>as 3C | 17/07/23<br>as 3C | 22/09/23<br>as 3C |
| 3-C                  |             | 26/10/23<br>3C    | 01/12/23<br>3C    | 09/01/24<br>3C       | 01/03/24<br>3C       | 19/04/24<br>3C       | 07/06/24<br>3C        | 27/09/24<br>3C       | 09/12/24<br>3C       | 22/04/25<br>3C    | 22/07/25<br>3C    | 02/09/25<br>3C    | 21/11/25<br>3C    |
| 4-C                  |             | 25/02/26<br>3C    | 20/05/26<br>3C    | 28/05/26<br>3C [1/6] | 04/06/26<br>3C [2/6] | 11/06/26<br>3C [3/6] | 25/06/26<br>3C [4/6]  | 08/07/26<br>3C [5/6] | 24/07/26<br>3C [6/6] | 26/08/26<br>3C    |                   |                   |                   |
| 5-C                  |             |                   |                   |                      |                      |                      |                       |                      |                      |                   |                   |                   |                   |

**Table 1.2: CRT-LIPON Treatment Record**

| AB REGIME            | CRT-LIPON X | CRT-LUMINA X           | CRT-REDOX X            | CRT-REDOX X (1)        | FBC + SWAB CS          | FRT                    | INJ CORTISONE 40MG/ML  | LAB TEST X             | UBT4                   | 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                  |             | 14/06/21<br>as REDOXIL | 21/06/21<br>as REDOXIL | 29/06/21<br>as REDOXIL | 13/09/21<br>as REDOXIL | 21/09/21<br>as REDOXIL | 27/09/21<br>as REDOXIL | 04/10/21<br>as REDOXIL | 25/10/21<br>as REDOXIL | 08/11/21<br>as REDOXIL | 22/11/21<br>as REDOXIL | 13/12/21<br>as REDOXIL | 10/01/22<br>as REDOXIL |
| 2-C                  |             | 21/03/22<br>as REDOXIL | 11/04/22<br>as 3C      | 09/05/22<br>as 3C      | 27/06/22<br>as 3C      | 20/07/22<br>as 3C      | 22/08/22<br>as 3C      | 19/09/22<br>as 3C      | 16/11/22<br>as 3C      | 16/12/22<br>as 3C      | 20/01/23<br>as 3C      | 21/02/23<br>as 3C      | 18/04/23<br>as 3C      |
| 3-C                  |             | 18/05/23<br>as 3C      | 19/06/23<br>as 3C      | 17/07/23<br>as 3C      | 22/09/23<br>as 3C      | 26/10/23<br>3C         | 01/12/23<br>3C         | 09/01/24<br>3C         | 01/03/24<br>3C         | 19/04/24<br>3C         | 07/06/24<br>3C         | 27/09/24<br>3C         | 09/12/24<br>3C         |
| 4-C                  |             | 22/04/25<br>3C         | 22/07/25<br>3C         | 02/09/25<br>3C         | 21/11/25<br>3C         | 25/02/26<br>3C         | 20/05/26<br>3C         | 28/05/26<br>3C [1/6]   | 04/06/26<br>3C [2/6]   | 11/06/26<br>[3/6]      | 25/06/26<br>3C [4/6]   | 08/07/26<br>3C [5/6]   | 24/07/26<br>3C [6/6]   |
| 5-C                  |             | 26/08/26<br>3C         |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |

**Table 1.3: CRT-LUMINA Treatment Record**

| SUMMARY - RFT & MICROALBUMIN (URINE) |          |          |          |          |          |            |              |
|--------------------------------------|----------|----------|----------|----------|----------|------------|--------------|
| centre                               | KDK - QD | KDK - CP | KDK - CP | KDK - CP | KDK - CP | KDK - GP   | GN           |
| test \ date                          | 08.08.19 | 27.08.20 | 05.04.21 | 03.05.21 | 14.06.21 | 13.09.21   | Normal Range |
| UREA                                 | 6.3      | 8.8      | 8.8      | 7.1      | 12.1     | 7.3        | 2.8-7.2      |
| CREATININE                           | 72       | 77       | 96       | 92       | 110      | 91         | 45-84        |
| e-GFR                                | 75       | 65       | 50       | 53       | 43       | 56         | >60          |
| URIC ACID                            | 279      | 0.33     | 0.26     | 0.25     | 0.31     | 0.34       | 155-357      |
| SODIUM                               | 144      | 137      | 142      | 140      | 140      | 143        | 136-146      |
| POTASSIUM                            | 3.9      | 5.0      | 4.7      | 5.1      | 5.0      | 4.7        | 3.5-5.1      |
| CHLORIDE                             | 102      | 105      | 105      | 107      | 104      | 103        | 101-109      |
| CALCIUM                              | 2.36     | 2.3      | 2.4      | -        | -        | 2.4        | 2.20-2.65    |
| CORRECTED CALCIUM                    | 2.4      | 2.4      | 2.5      | -        | -        | 2.42       | 2.1-2.6      |
| PHOSPHORUS                           | 1.17     | 1.1      | 1.3      | -        | -        | 1.21       | 0.81-1.45    |
| MAGNESIUM, SERUM                     | -        | -        | -        | -        | -        | -          | 0.77-1.03    |
| Urine Albumin                        | -        | -        | -        | -        | -        | 10.5       | < 20         |
| Urine Creatinine                     | -        | -        | -        | -        | -        | 6.9        | 0.9-26.5     |
| ACR                                  | -        | -        | -        | -        | -        | 1.5        | <3.4         |
| UTI Status                           | -        | -        | -        | +VE      | -VE      | -VE        |              |
| CRT-REDOX+                           | -        | D1       | D7       | D11      | D15      | D18        |              |
| CRT-LIPON                            | -        | -        | -        | -        | -        | -          |              |
| CRT-LUMINA                           | -        | -        | -        | -        | D1       | D4         |              |
| centre                               | CVS - CP | KDK - GP | KDK - GP | KDK - GP | KDK - GP | KDK - INNO | GN           |
| test \ date                          | 30.09.21 | 25.10.21 | 10.01.22 | 21.03.22 | 11.04.22 | 27.06.22   | Normal Range |
| UREA                                 | 7.2      | 8.2      | 7.6      | 8.8      | 7.4      | 8.9        | 2.8-7.2      |
| CREATININE                           | 78       | 102      | 84       | 97       | 88       | 78         | 45-84        |
| e-GFR                                | 66.8     | 48       | 61       | 52       | 58       | 67         | >60          |
| URIC ACID                            | 0.19     | 0.31     | 0.28     | 0.24     | 0.28     | 0.26       | 155-357      |
| SODIUM                               | 141      | 141      | 146      | 143      | 146      | 140        | 136-146      |
| POTASSIUM                            | 4.6      | 4.6      | 6.4      | 6.9      | 5.1      | 6.8        | 3.5-5.1      |
| CHLORIDE                             | 104      | 106      | 105      | 109      | 106      | 103        | 101-109      |
| CALCIUM                              | 2.5      | -        | -        | -        | 2.36     | -          | 2.20-2.65    |
| CORRECTED CALCIUM                    | 2.4      | -        | -        | -        | 2.34     | -          | 2.1-2.6      |
| PHOSPHORUS                           | 1.3      | -        | -        | -        | 1.13     | -          | 0.81-1.45    |
| MAGNESIUM, SERUM                     | -        | -        | -        | -        | -        | -          | 0.77-1.03    |
| Urine Albumin                        | 3.9      | -        | 13.5     | 63.3     | 20.5     | <6.0       | < 20         |
| Urine Creatinine                     | 17.4     | -        | 11.7     | 20.98    | 6.03     | 2.66       | 0.9-26.5     |
| ACR                                  | 4.46     | -        | 1.2      | 3        | 3.4      | <2.3       | <3.4         |
| UTI Status                           | -        | -        | +VE      | -        | +VE      | +VE        |              |
| CRT-REDOX+                           | D20      | D22      | D26      | D27      | D28      | D30        |              |
| CRT-LIPON                            | D1       | D4       | D8       | D9       | D10      | D12        |              |
| CRT-LUMINA                           | D6       | D8       | D12      | D13      | D14      | D16        |              |

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

| centre<br>date       | KDK - INNO | KDK - GN | KDK - GN | KDK - GN | KDK - GN | KDK - GN | GN           |
|----------------------|------------|----------|----------|----------|----------|----------|--------------|
| test                 | 22.08.22   | 19.09.22 | 16.11.22 | 21.02.23 | 19.04.23 | 22.09.23 | Normal Range |
| UREA                 | 7.2        | 6.4      | 9.3      | 9.2      | 9.1      | 5.6      | 2.8-7.2      |
| CREATININE           | 121        | 91       | 88       | 87       | 93       | 69       | 45-84        |
| e-GFR                | 42         | 56       | 59       | 59       | 55       | 73       | >60          |
| URIC ACID            | 0.29       | 330      | 363      | 344      | 350      | 295      | 155-357      |
| SODIUM               | 137        | 140      | 141      | 136      | 136      | 139      | 136-146      |
| POTASSIUM            | -          | 4.3      | 4.7      | 5.3      | 5.4      | 7.7*     | 3.5-5.1      |
| CHLORIDE             | 103        | 102      | 105      | 103      | 105      | 107      | 101-109      |
| CALCIUM              | -          | -        | -        | -        | 2.39     | -        | 2.20-2.65    |
| CORRECTED<br>CALCIUM | -          | -        | -        | -        | 2.4      | -        | 2.1-2.6      |
| PHOSPHORUS           | -          | -        | -        | -        | 1.38     | -        | 0.81-1.45    |
| MAGNESIUM,<br>SERUM  | -          | -        | -        | -        | 0.57     | -        | 0.77-1.03    |
| Urine Albumin        | 41.8       | 76.6     | 8.8      | 18.1     | 31.9     | 7.3      | <20          |
| Urine Creatinine     | 20.73      | 31.7     | 9.4      | 9.3      | 21.7     | 6.7      | 0.9-26.5     |
| ACR                  | 2.0        | 2.4      | 0.9      | 1.9      | 1.5      | 1.1      | <3.4         |
| UTI Status           | -          | +VE      | -VE      | +VE      | -        | -VE      |              |
| CRT-REDOX+           | D32        | D33      | D34      | D37      | D38      | D42      |              |
| CRT-LIPON            | D14        | D15      | D16      | D19      | D20      | D24      |              |
| CRT-LUMINA           | D18        | D19      | D20      | D23      | D24      | D28      |              |
| centre<br>date       | KDK - GN   | KDK - GN | KDK - GN | KDK - GN | KDK-GN   | KDK -GN  | GN           |
| test                 | 09.01.24   | 07.06.24 | 22.04.25 | 02.09.25 | 20.05.26 | 08.07.26 | Normal Range |
| UREA                 | 7.1        | 7.4      | 9.3      | 8.8      | 10.1     | 8.3      | 2.8-7.2      |
| CREATININE           | 88         | 74       | 71       | 95       | 93       | 115      | 45-84        |
| e-GFR                | 61         | 75       | 78       | 55       | 56       | 43       | >60          |
| URIC ACID            | 387        | 250      | 280      | 309      | 350      | 310      | 155-357      |
| SODIUM               | 142        | 137      | 136      | 140      | 138      | 138      | 136-146      |
| POTASSIUM            | 7.6*       | 4.9      | 5.1      | 4.8      | 7.7*     | 6.0*     | 3.5-5.1      |
| CHLORIDE             | 103        | 102      | 106      | 107      | 106      | 108      | 101-109      |
| CALCIUM              | 2.24       | 2.42     | 2.41     | -        | 2.47     | -        | 2.20-2.65    |
| CORRECTED<br>CALCIUM | 23         | 2.5      | 2.5      | -        | 2.5      | -        | 2.1-2.6      |
| PHOSPHORUS           | 1.41       | 1.31     | 1.42     | -        | 1.50*    | -        | 0.81-1.45    |
| MAGNESIUM,<br>SERUM  | 0.44       | 0.62     | 0.61     | -        | 0.60     | -        | 0.77-1.03    |
| Urine Albumin        | 37.6       | 4.2      | 5        | 11.6     | 9.2      | 16.7     | <20          |
| Urine Creatinine     | 18.4       | 3.9      | 5.9      | 9.8      | 9.9      | 13.0     | 0.9-26.5     |
| ACR                  | 2          | 1.1      | 0.8      | 1.2      | 0.9      | 1.3      | <3.4         |
| UTI Status           | -VE        | -VE      | -        | -        | -VE      | -        |              |
| CRT-REDOX+           | D45        | D48      | D51      | D53      | D55      | D60      |              |
| CRT-LIPON            | D27        | D30      | D32      | D34      | D37      | D42      |              |
| CRT-LUMINA           | D31        | D34      | D36      | D38      | D41      | D46      |              |

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

| centre            | KDK-GN |          |  |  |  |  | GN           |
|-------------------|--------|----------|--|--|--|--|--------------|
| test              | date   | 28.08.26 |  |  |  |  | Normal Range |
| UREA              |        | 10.3     |  |  |  |  | 2.8-7.2      |
| CREATININE        |        | 98       |  |  |  |  | 45-84        |
| e-GFR             |        | 52       |  |  |  |  | >60          |
| URIC ACID         |        | 328      |  |  |  |  | 155-357      |
| SODIUM            |        | 139      |  |  |  |  | 136-146      |
| POTASSIUM         |        | 5.4*     |  |  |  |  | 3.5-5.1      |
| CHLORIDE          |        | 109      |  |  |  |  | 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     |        | 4.6      |  |  |  |  | < 20         |
| Urine Creatinine  |        | 6.2      |  |  |  |  | 0.9-26.5     |
| ACR               |        | 0.7      |  |  |  |  | <3.4         |
| UTI Status        |        | -VE      |  |  |  |  |              |
| CRT-REDOX+        |        | D63      |  |  |  |  |              |
| CRT-LIPON         |        | D45      |  |  |  |  |              |
| CRT-LUMINA        |        | D49      |  |  |  |  |              |

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

#### e-GFR categories in CKD

| GFR category | GFR (ml/min/1.73 m2) | 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