

# KM\_model.rmd

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## Declaration

**Status:** *C* (censored), *CL* (censored due to liver transplant), or *D* (death)

For survival analysis:

- Status C and CL are classified as **censored** (`event = 0`).
- Status D is classified as **death** (`event = 1`).

## Overall Survival Result

### Kaplan–Meier Survival Curve

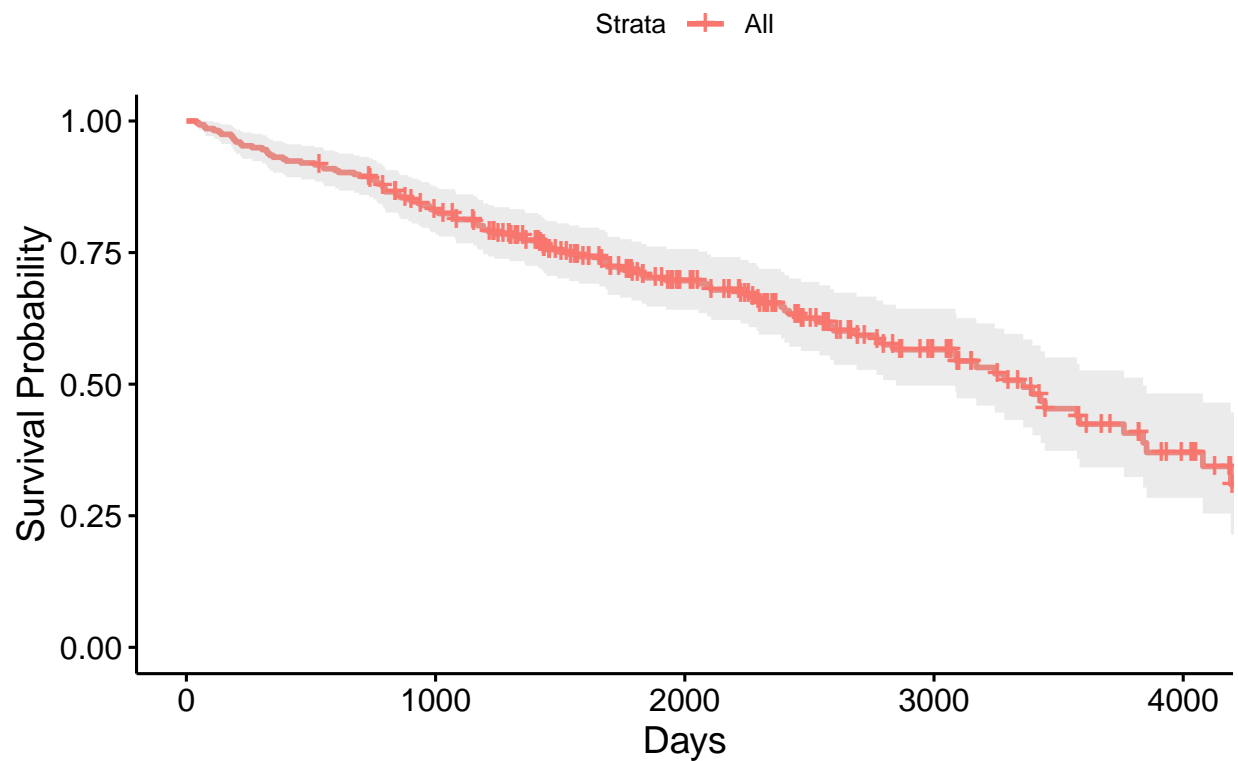


Table 1: Kaplan-Meier Survival Summary by Yearly Intervals

Time Interval (Years)	At Risk	Events	Censored	Survival Probability	Lower CI	Upper CI
[0, 1)	276	19	0	0.93	0.90	0.96
[1, 2)	257	10	1	0.89	0.86	0.93
[2, 3)	246	22	12	0.81	0.77	0.86
[3, 4)	212	14	29	0.76	0.71	0.81
[4, 5)	169	9	24	0.71	0.66	0.77
[5, 6)	136	6	18	0.68	0.62	0.74
[6, 7)	112	9	23	0.62	0.55	0.69
[7, 8)	80	6	15	0.57	0.50	0.64
[8, 9)	59	5	13	0.51	0.43	0.60
[9, 10)	41	6	8	0.42	0.34	0.53
[10, 11)	27	3	7	0.37	0.28	0.48
[11, 12)	17	2	10	0.31	0.21	0.45

## Survival Result by Drug

### Survival Curves by Drug Type

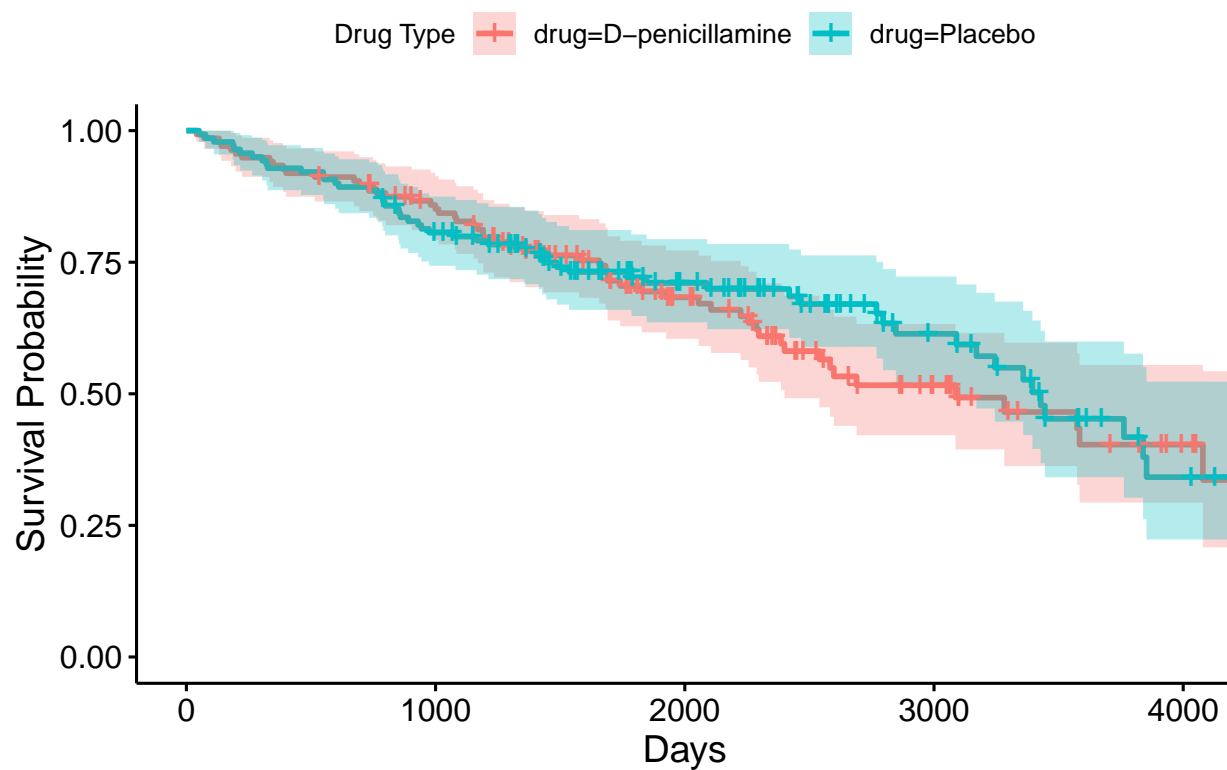


Table 2: Log-Rank Test Results for Drug Groups

Chi-Squared Statistic	Degrees of Freedom	P-Value
0.4049	1	0.5246

#### Interpretation:

The p-value is 0.5246, which is significantly higher than the threshold of 0.05. This indicates no statistically significant difference in survival between the drug groups. Therefore, the results suggest that D-penicillamine does not demonstrate a statistically significant difference from the placebo group.

## Survival Result by Other Covariates

Edema

### Survival Curves by Edema

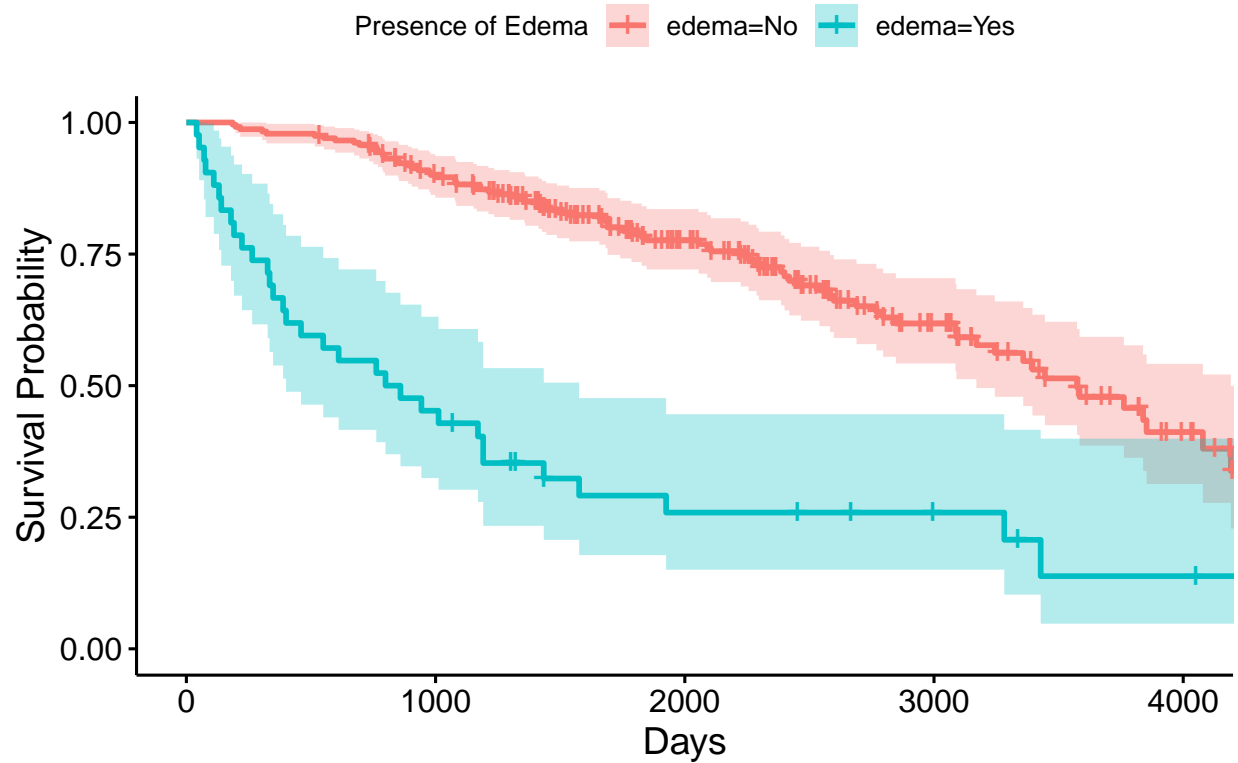


Table 3: Log-Rank Test Results for Edema Groups

Chi-Squared Statistic	Degrees of Freedom	P-Value
53.0933	1	<0.0001

The log-rank test for edema groups reveals a Chi-Squared statistic of 53.0933 with 1 degree of freedom and a highly significant p-value ( $<0.0001$ ), indicating a statistically significant difference in survival curves between the groups. This result suggests that presence of edema plays a critical role in influencing survival outcomes, with distinct survival probabilities observed across the groups.

Stage

*histologic stage of disease (1, 2, 3, or 4)*

## Survival Curves by Stage

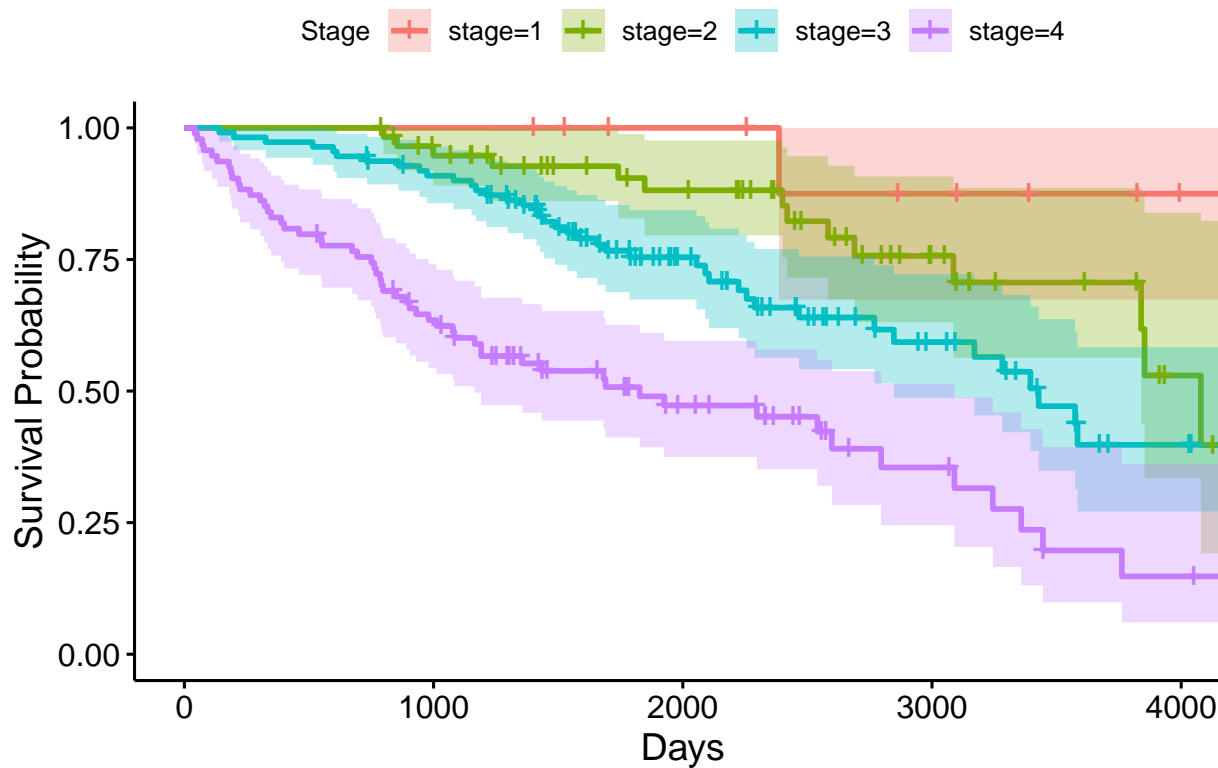


Table 4: Log-Rank Test Results for Stage Groups

Chi-Squared Statistic	Degrees of Freedom	P-Value
44.6499	3	<0.0001

The log-rank test for stage groups shows a Chi-Squared statistic of 44.6499 with 3 degree of freedom and a highly significant p-value ( $<0.0001$ ). These results strongly indicate that there is a statistically significant difference in survival curves between the stage groups. This suggests that the stage of the disease has a significant impact on survival outcomes.