

Lichtinghagen Dataset

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Disclaimer: I did not create or collect data to compile this dataset.

For more details about the dataset and the creators, Ralf Lichtinghagen, Frank Klawonn, and Georg Hoffmann, please visit: <https://archive.ics.uci.edu/ml/datasets/HCV+data>

1 Summary

This is real-life data from a published study on liver fibrosis and cirrhosis in patients with chronic hepatitis C infection. The article can be found at: <https://doi.org/10.1016/j.jhep.2013.03.016>

Some details about the dataset:

- For **Category**, there are 5 different classifications which includes the stages of Hep C: 0=Blood Donor, 0s=suspect Blood Donor, 1=Hepatitis, 2=Fibrosis, 3=Cirrhosis.
- There are 10 different labs taken from each patient. The labs include: albumin (**ALB**), bilirubin (**BIL**), choline esterase (**CHE**), γ -glutamyl-transferase (**GGT**), aspartate amino-transferase (**AST**), and alanine amino-transferase (**ALT**).

ID	Category	Age	Sex	ALB	ALP	ALT	AST	BIL	CHE	CHOL	CREA	GGT	PROT
554	1=Hepatitis	41	m	42.0	39.6	26.5	77.6	42.0	9.67	9.67	57.7	143.4	75.8
264	0=Blood Donor	58	m	44.0	56.0	30.6	33.0	4.8	12.37	6.33	74.0	58.7	75.8
9	0=Blood Donor	32	m	50.9	65.5	23.2	21.2	6.9	8.69	4.10	83.0	13.7	71.3
114	0=Blood Donor	42	m	38.1	88.7	46.7	37.0	12.5	7.26	6.76	54.0	18.4	72.1
565	2=Fibrosis	29	m	41.0	43.1	2.4	83.5	6.0	11.49	5.42	55.2	130.0	66.5
229	0=Blood Donor	53	m	44.5	61.2	14.4	18.1	8.0	6.95	5.00	70.0	18.3	72.0
413	0=Blood Donor	46	f	39.9	73.9	14.0	17.2	16.3	6.93	5.11	71.0	12.7	64.7
42	0=Blood Donor	35	m	51.0	82.7	29.3	26.8	8.7	12.32	5.44	89.0	25.0	77.3
598	3=Cirrhosis	56	m	30.0	40.4	0.9	80.3	119.0	1.88	1.43	79.3	17.6	54.2
260	0=Blood Donor	57	m	59.7	64.5	17.3	21.2	18.9	12.07	3.97	106.0	15.1	77.6
259	0=Blood Donor	56	m	45.7	45.3	19.5	27.0	9.3	10.62	6.04	94.0	17.4	74.5
490	0=Blood Donor	55	f	35.2	69.6	23.6	26.0	3.8	4.97	4.43	69.0	29.4	60.5
60	0=Blood Donor	37	m	38.6	61.2	24.6	31.9	7.9	6.02	4.63	72.0	10.3	56.3
546	1=Hepatitis	29	m	49.0	NA	53.0	39.0	15.0	8.79	3.60	79.0	37.0	90.0
189	0=Blood Donor	49	m	41.2	96.0	25.0	27.7	15.6	7.12	5.61	92.0	37.8	68.7

2 Patient Demographics

2.1 Age Range

Figure 1 shows the general age groups of the patient in the study. The youngest patient in this study was 19 and the oldest patient was 77. The age ranges are broken down 10-19, 20-29, 30-39, 40-49, 50-59, 60-69 and 70-79.

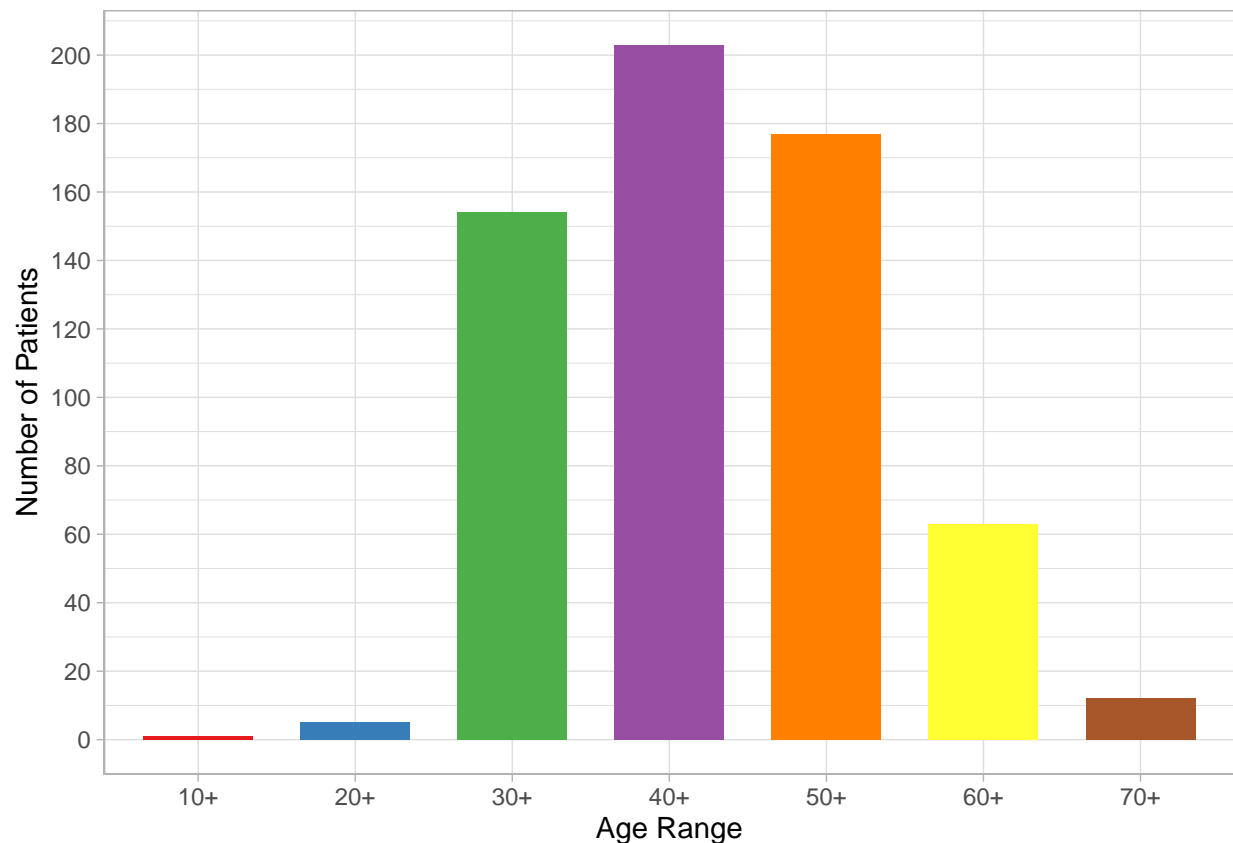


Figure 1: The number of patients in each age interval

2.2 Age & Sex

Figure 2 is a similar graph to Figure 1 from above. However, Figure 2 is showing the number of patient by age group and sex.

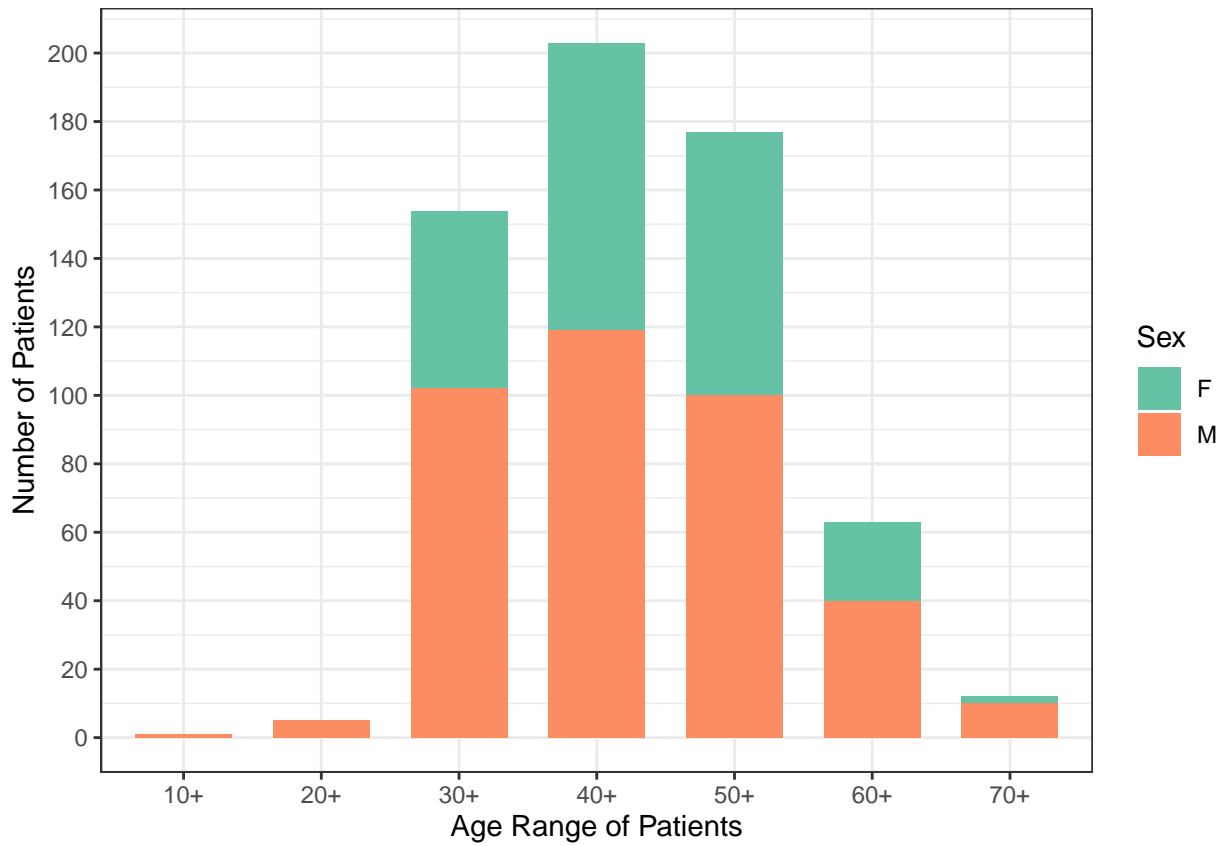


Figure 2: The number of patients in each age interval by sex

2.3 Age & Hepatitis C Stage

Figure 3 is only showing patients with Hepatitis and the other progressive stages like Fibrosis or Cirrhosis within each age range.

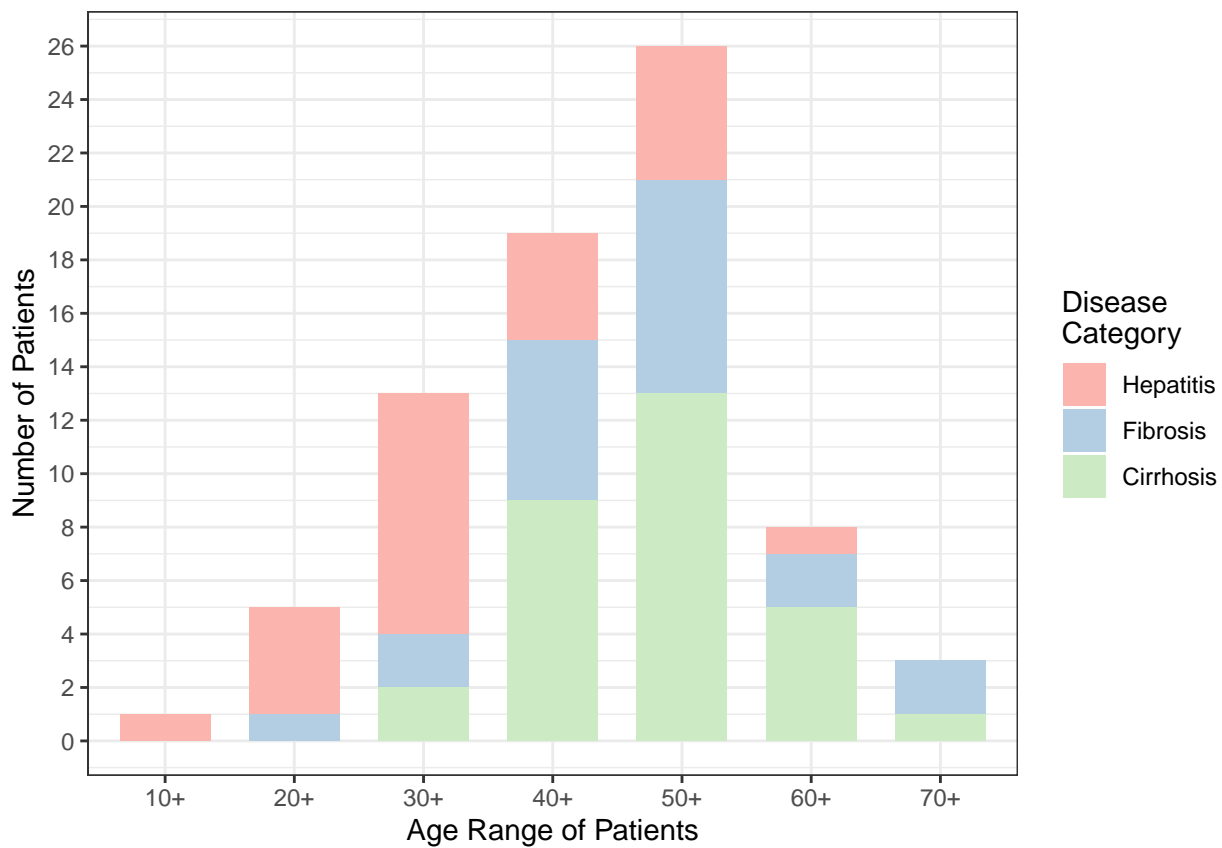


Figure 3: The number of patients in each age interval by Hepatitis stage

3 Lab test: Albumin measurement (ALB)

Figure 4 shows the Albumin measurements for patients who have Hepatitis, Fibrosis or Cirrhosis.

According to the VA, “A low albumin level in patients with hepatitis C can be a sign of cirrhosis (advanced liver disease)”.
<https://www.hepatitis.va.gov/hcv/patient/diagnosis/labtests-albumin.asp>

In the figure, there are patients with Cirrhosis who do show lower ALB levels than the standard range which is highlighted in green (34 to 54 g/L). Because normal value ranges may vary slightly among different laboratories and tests, the highlighted area is based on the UCSF medical test for ALB (<https://www.ucsfhealth.org/medical-tests/003480>).

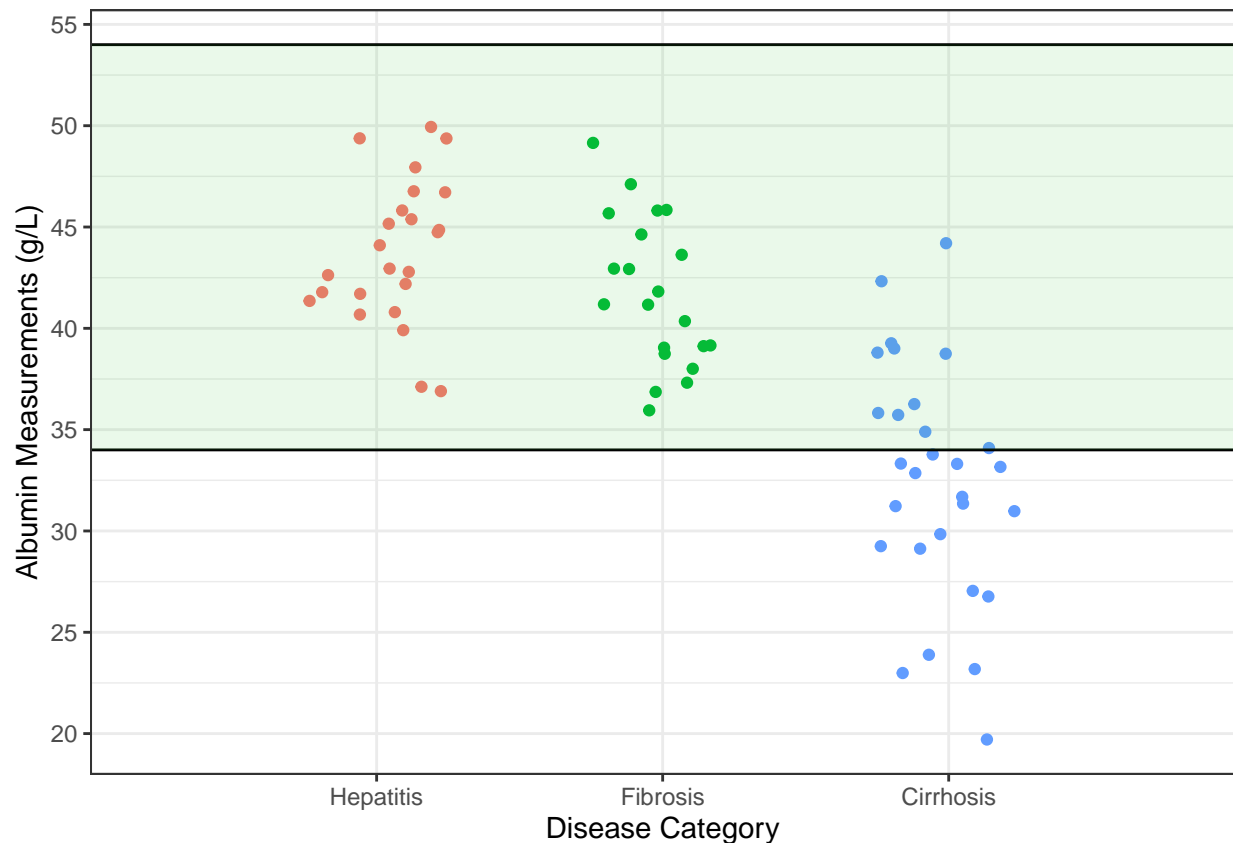


Figure 4: Albumin measurement (ALB) in patients with Hepatitis C, Fibrosis or Cirrhosis