Comparative Long-Term Outcomes of Mavyret and Epclusa in Chronic Hepatitis C: A Propensity-Matched Cohort Study

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Introduction:

- Hepatitis C virus (HCV) affects an estimated 58 million people worldwide, posing a major public health challenge with significant morbidity and mortality.
- The advent of pan-genotypic treatments, particularly Mavyret and Epclusa, has revolutionized HCV management by offering high cure rates across all genotypes.
- Understanding the long-term outcomes of these treatments is crucial to optimizing patient care and resource allocation.

Methods:

- We conducted a retrospective cohort study using TriNetX, a multi-institutional database, to compare the long-term outcomes of Mavyret and Epclusa in patients with chronic Hepatitis C, who have completed their course of treatment and have documented viral remission.
- The primary aim was to assess the risk of developing cirrhosis and all-cause mortality despite achieving serological viral remission at the end of treatment, within 3 years.
- Secondary outcomes included the incidence of lymphoma, hepatocellular carcinoma (HCC), chronic kidney disease (CKD), end-stage renal disease (ESRD), and bradycardia.
- Patients with exposure to other treatments for Hepatitis C, and those with diagnoses of hepatitis B, HIV, liver transplant, and prior study outcomes were excluded.
- One-to-one propensity score matching (PSM) was performed for demographics, comorbid conditions, liver parameters, creatinine levels, malignancies, and liver diseases including cirrhosis between the cohorts. Risk was expressed as adjusted odds ratio (aOR) with 95% confidence intervals (CI).

Characteristic	Epclusa (N=1,314)	Mavyret (N=1,589)		
Demographics (Before Propensity Matching)				
Mean Age	52.1 ± 13.1	47.4 ± 13.6		
White (%)	64.50%	69.90%		
Male Sex (%)	56.80%	52.90%		
Outcomes within 3 years (After Propensity Matching)				
Outcome	**Mavyret N (%)**	**Epclusa N (%)**	**aOR (95% CI)**	**P-value**
Cirrhosis	112 (9.70%)	161 (13.90%)	0.66 (0.51-0.85)	**<0.05**
Mortality	59 (5.10%)	44 (3.80%)	1.35 (0.9-2.02)	0.13
Lymphoma	10 (0.80%)	10 (0.80%)	1 (0.4-2.4)	1
Hepatocellular Carcinoma (HCC)	10 (0.80%)	12 (1.04%)	0.8 (0.3-1.9)	0.6
Chronic Kidney Disease (CKD)	51 (4.40%)	49 (4.20%)	1.04 (0.69-1.5)	0.8
End-stage Renal Disease (ESRD)	10 (0.80%)	10 (0.80%)	1 (0.4-2.4)	1
Bradycardia	37 (3.20%)	33 (2.80%)	1.12 (0.6-1.8)	0.6

Table 1: Baseline Characteristics and 3-Year Outcomes for Hepatitis C patients on Mavyret vs Epclusa

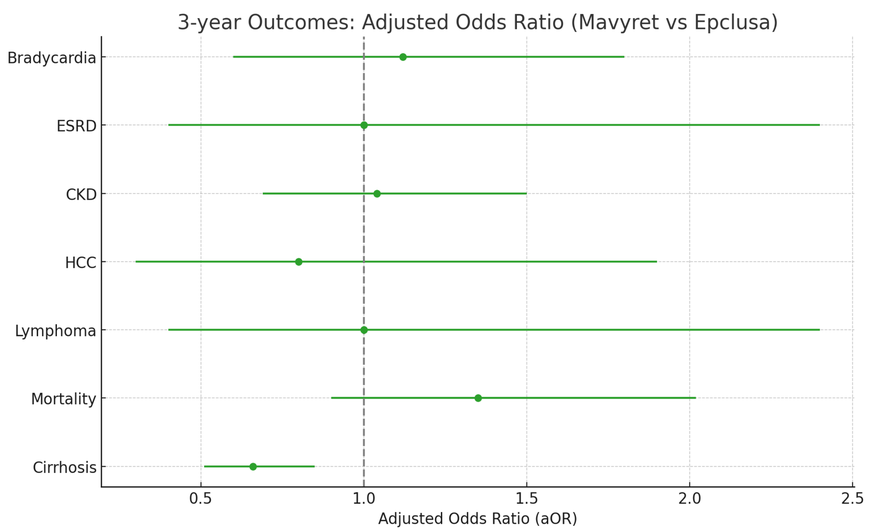

Figure 1: Forest Plot of Adjusted Odds Ratios (aOR) for 3-Year Outcomes of Hepatitis C patients on Mavyret vs Epclusa

Results

- Our study compared outcomes in patients treated with Epclusa (n=1,314) and Mavyret (n=1,589) between 2016 and 2021.
- Patients treated with Epclusa had a mean age of 52.1 ± 13.1 years, 64.50% were white, and 56.80% were male. Patients treated with Mavyret had a mean age of 47.4 ± 13.6 years, 69.90% were white, and 52.90% were male.
- At 3 years, Mavyret was associated with a significantly lower rate of cirrhosis compared to Epclusa (9.70% vs. 13.90%, aOR 0.66, 95% CI 0.51-0.85, p<0.05).
- No significant differences were observed in mortality (5.10% vs. 3.80%, aOR 1.35, 95% CI 0.9-2.02, p=0.13), lymphoma (0.80% vs. 0.80%, aOR 1, 95% CI 0.4-2.4, p=1), HCC (0.80% vs. 1.04%, aOR 0.8, 95% CI 0.3-1.9, p=0.6), CKD (4.40% vs. 4.20%, aOR 1.04, 95% CI 0.69-1.5, p=0.8), ESRD (0.80% vs. 0.80%, aOR 1, 95% CI 0.4-2.4, p=1), or bradycardia (3.20% vs. 2.80%, aOR 1.12, 95% CI 0.6-1.8, p=0.6).

Conclusion

- This study demonstrates that Mavyret is associated with a lower incidence of cirrhosis compared to Epclusa in patients with chronic Hepatitis C over a 3-year period.
- These findings highlight the potential of Mavyret in reducing the progression to cirrhosis, emphasizing the need for further research to confirm these benefits and explore the underlying mechanisms, if any.

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