

Analysis of Hepatitis B Screening with Oral Anticancer Therapy Initiation Within a Large Academic Medical Center Specialty Pharmacy

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Background

- The World Health Organization estimated that 296 million people worldwide were living with hepatitis B virus (HBV) in 2019¹
- Patients treated with oral anticancer therapy are at heightened risk for HBV infection due to being considered immunocompromised
- A large portion of patients are unaware of their HBV status given approximately 50-70% of patients with an acute infection are asymptomatic²
- The National Comprehensive Cancer Network estimated that up to 45% of patients positive for HBcAb will develop HBV reactivation, which could lead to self-limited hepatitis, fulminant hepatic failure, or death
- The American Society of Clinical Oncology (ASCO) recommends all newly diagnosed patients receiving anticancer therapy should be screened for HBV with 3 tests at the start of therapy including HBsAg, HBcAb, and HBsAb³
- A recent Cleveland Clinic Specialty Pharmacy (CCSP) internal assessment of oncology patients identified deficiencies in HBV screening prior to many new start anticancer therapy

Objectives

Primary

- Assess the percentage of patients screened for HBV prior to initiation of oral anticancer therapy

Secondary

- Percentage of HBV screening recommendations made by pharmacists prior to initiation of oral anticancer therapy, in compliance with ASCO's recommendation
- Percentage of provider acceptance rate of HBV screening recommendations made by specialty pharmacists
- Percentage of all patients starting oral anticancer therapy that tested positive for HBsAg
- Percentage of all patients starting oral anticancer therapy that tested positive for HBcAb
- Percentage of all patients starting oral anticancer therapy that tested positive for HBsAb
- Percentage of patients initiated on antiviral prophylaxis for chronic HBV

Methods

Study Design

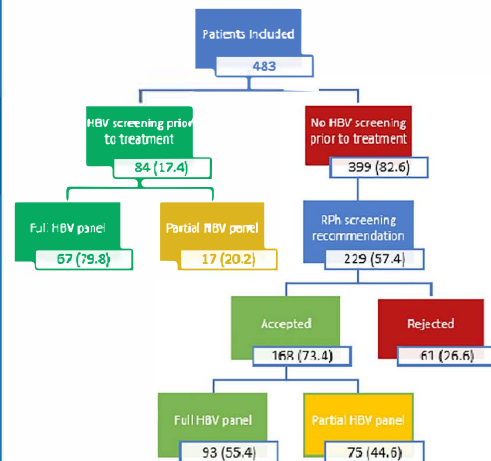
- Retrospective observational study of all patients initiated on oral anticancer therapy
- May 1, 2023 – August 31, 2023

Inclusion criteria

- Received care from a Cleveland Clinic oncology provider
- Oral anticancer medication dispensed from the CCSP

Exclusion criteria

- Received hormone-based treatment without systemic anticancer therapy



Data Collection Points

Baseline Characteristics	
Variable	Total Population (N = 483)
Age, years	68 [60-76]
Gender, female	240 (49.7)
Race	
Caucasian	370 (76.6)
African American	77 (15.9)
Other	36 (7.5)
Prescriber's state	
Ohio	416 (86.1)
Florida	67 (13.9)
Cancer diagnosis	
Breast	55 (11.4)
Prostate	50 (10.4)
CLL	41 (8.5)
Colon	40 (8.3)
AML	28 (5.8)
Other	269 (55.7)
Line of therapy	
First line	115 (23.8)
Second line	144 (29.8)
Third line or greater	224 (46.4)
Time from RPH recommendation to HBV panel obtained, days	29 [11.25-54]

*Data presented as median [IQR]
 *Data presented as n (%)

Results

Patients that Received HBV Screening		
	N = 252	Yes
HBV screening prior to treatment	84 (33.3)	
HBV screening after RPH rec	168 (66.7)	
Full HBV panel collected	160 (63.5)	
HBsAg positive result	0 (0)	
HBsAb positive result	44 (17.5)	
HBcAb positive result	7 (2.8)	
HBsAb (+), HBsAg (-)	4 (57.1)	
HBsAb (-), HBsAg (-)	2 (28.6)	
No HBsAb or HBsAg result	1 (14.3)	
Partial HBV panel collected	92 (36.5)	
Missing HBsAg	18 (19.6)	
Missing HBsAb	63 (68.5)	
Missing HBcAb	40 (43.4)	
Antiviral usage for those HBcAb positive	2 (28.6)	

*Data presented as n (%)

Conclusion

Pharmacist recommendations to complete HBV screening in patients prior to initiation of oral anticancer therapy were accepted by providers majority of the time, permitting for further optimization of treatment safety prior to medication initiation.

Disclosure and References

- The authors of this study have no conflicts of interest to disclose.
- World Health Organization. Global progress report on HIV, viral hepatitis and sexually transmitted infections, 2021.
 - Viral Hepatitis Surveillance and Case Management – Hepatitis B [Internet]. CDC. [revised 2024 Feb 2; cited 2024 Mar 1].
 - Hwang JP, Feld JJ, Hammond SP, et al. Hepatitis B Virus Screening and Management for Patients With Cancer Prior to Therapy: ASCO Provisional Clinical Opinion Update. *J Clin Oncol*. 2020 Nov 1;38(31):3598-3715.