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Mortality Rates Remain High After Hepatitis C Cure

Megan Brooks

DISCLOSURES | August 22, 2023

Mortality rates among patients successfully treated for hepatitis C in the era of interferon-free antivirals: population based cohort study

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- Patients who are successfully treated show better health outcomes than untreated patients (eg, liver disease progression, diseases outside the liver, and all cause mortality)
- Countries are moving towards hepatitis C elimination, but the prognosis after successful treatment remains questionable

What this study adds

- People who have received successful hepatitis C treatment show high mortality rates that are considerably greater than the general population (between 3 and 14 times higher depending on liver disease stage)
- Excess mortality is largely driven by drug related causes, liver failure, and liver cancer; recent hospital admissions for alcohol and substance misuse were predictors of higher mortality rates and standardised mortality ratios
- With substantial drug and liver related mortality after successful hepatitis C treatment, services and interventions to prevent drug and alcohol related harms are needed

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RESEARCH ARTICLE | VOLUME 78, ISSUE 4, P731-741, APRIL 2023

A critique and systematic review of the clinical utility of hepatitis B core-related antigen

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Footnotes

Impact and implications

Hepatitis B core-related antigen (HBcrAg) has been used to assess management of patients with chronic hepatitis B (CHB) without a systematic and critical Sreview of its performance. Our finding that HBcrAg had a false-positive rate of 9% and a false-negative rate of 12-35% raises concerns, although larger studies are needed for validation. A systematic review showed that the performance of HBcrAg was variable depending on the CHB endpoint; it was excellent at predicting HBeAg seroconversion and HBeAg-negative chronic hepatitis (*vs.* chronic infection), which should be its main use, but it was poor for relapse after stopping antiviral therapy and for HBsAg loss. HBcrAg results should be interpreted with considerable caution, particularly by physicians, researchers, guideline committees and agencies that approve diagnostic tests.

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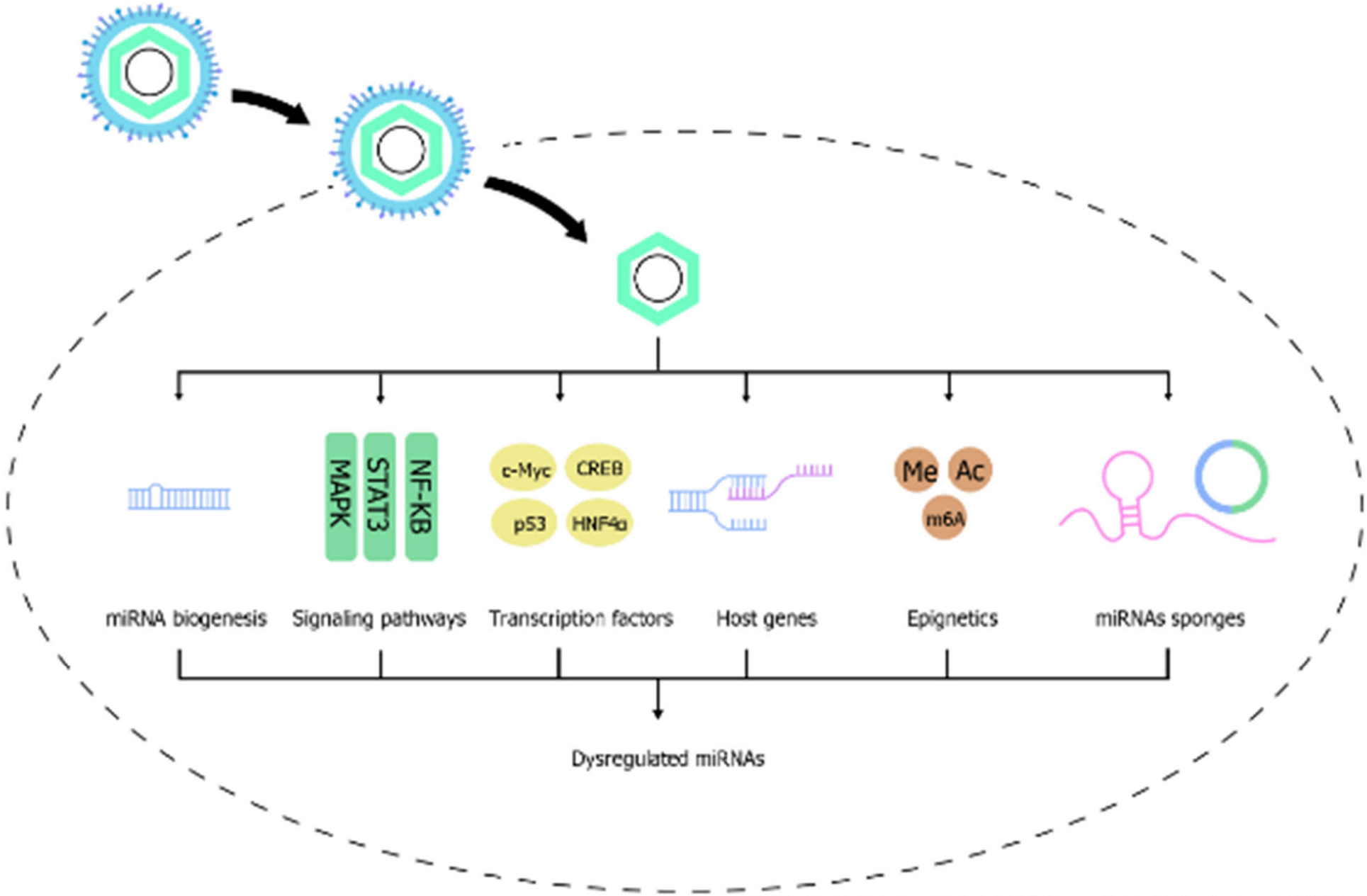
REVIEW

Dysregulated microRNAs as a biomarker for diagnosis and prognosis of hepatitis B virus-associated hepatocellular carcinoma

Ming-He Zhang, Yu-Feng Yuan, Li-Juan Liu, Yu-Xin Wei, Wan-Yue Yin, Lan-Zhuo-Yin Zheng, Ying-Ying Tang, Zhao Lv, Fan Zhu

Abstract

Hepatocellular carcinoma (HCC) is a malignancy with a high incidence and fatality rate worldwide. Hepatitis B virus (HBV) infection is one of the most important risk factors for its occurrence and development. Early detection of HBV-associated HCC (HBV-HCC) can improve clinical decision-making and patient outcomes. Biomarkers are extremely helpful, not only for early diagnosis, but also for the development of therapeutics. MicroRNAs (miRNAs), a subset of non-coding RNAs approximately 22 nucleotides in length, have increasingly attracted scientists' attention due to their potential utility as biomarkers for cancer detection and therapy. HBV profoundly impacts the expression of miRNAs potentially involved in the development of hepatocarcinogenesis. In this review, we summarize the current progress on the role of miRNAs in the diagnosis and treatment of HBV-HCC. From a molecular standpoint, we discuss the mechanism by which HBV regulates miRNAs and investigate the exact effect of miRNAs on the promotion of HCC. In the near future, miRNA-based diagnostic, prognostic,



HBV: Hepatitis B virus; miRNAs: MicroRNAs.

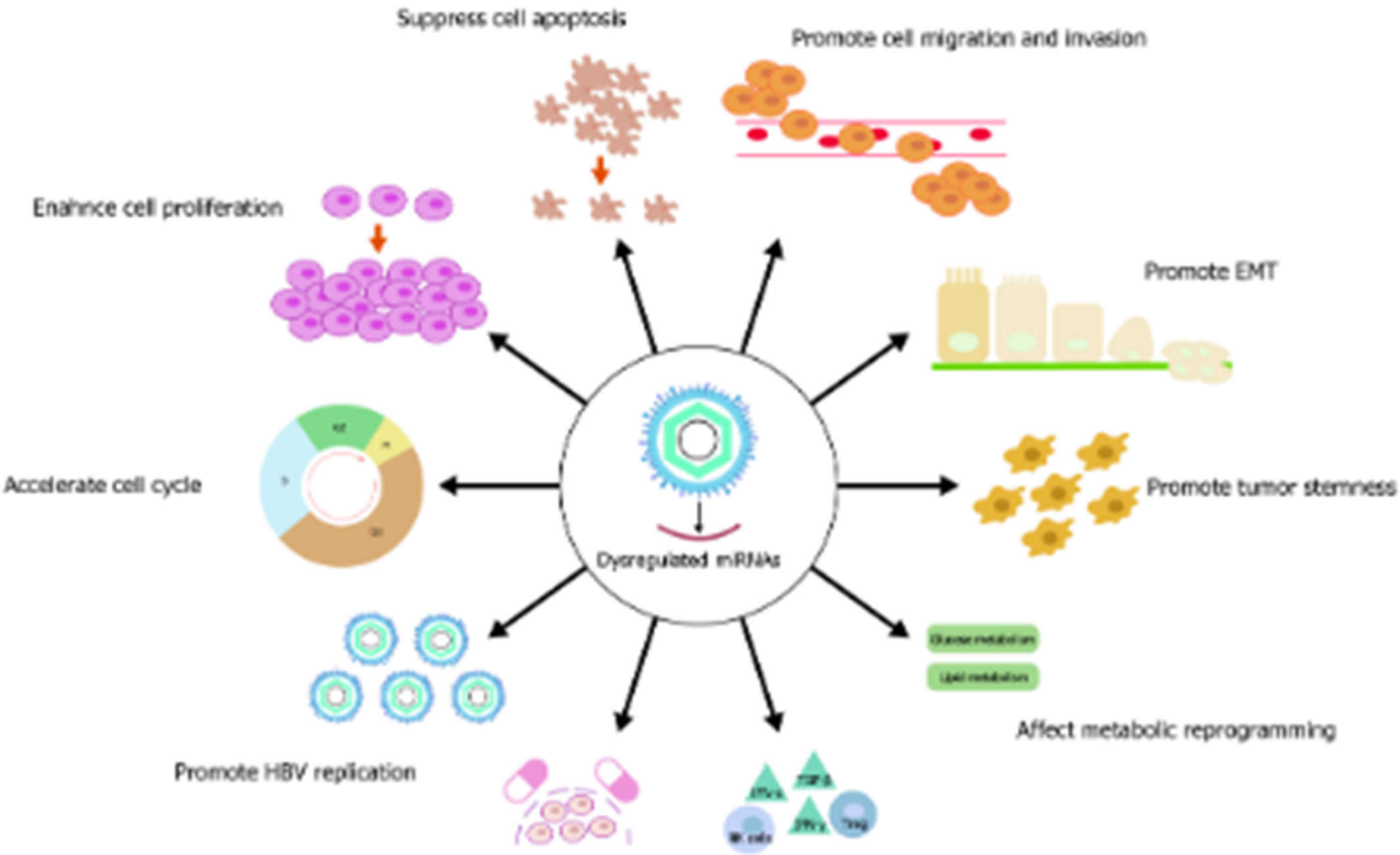


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Figure 3 Mechanisms of hepatitis B virus dysregulated microRNAs in promoting hepatocellular carcinoma. miRNAs: MicroRNAs; HBV: Hepatitis B virus; EMT: Epithelial-mesenchymal transition.

Core Tip: Hepatocellular carcinoma (HCC) is one of the most common malignancies worldwide. Hepatitis B virus (HBV) infection is one of the predominant risk factors for developing HCC. Early diagnosis and prognosis prediction are pivotal for patients with HBV-associated HCC (HBV-HCC) in their clinical management. MicroRNAs (miRNAs), a subset of non-coding RNAs, play an essential role in human diseases including HBV-HCC. Here, we summarize the role of miRNAs in the diagnosis and prognosis prediction of patients with HBV-HCC. Furthermore, we discuss the underlying mechanism by which HBV dysregulates miRNAs, and the potential role of dysregulated miRNAs in promoting hepatocarcinogenesis, laying the foundation for applying potential therapeutic targets.

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COMMENTARY

The time has come to implement primary human papillomavirus screening for cervical cancer in the United States

Eduardo L. Franco DrPH | **on behalf of the American Cancer Society's Primary HPV Screening Initiative**

does, the ACS will be ready to revise its guidelines.

In conclusion, the ACS is marshalling its considerable educational and knowledge dissemination resources to advance primary HPV screening in the United States and share best practices from countries that have done the same. As it has done for the past 110 years as a voluntary health organization dedicated to eliminating cancer, the ACS is using its national and international stature and credibility to help the country embrace one of the most important advances in cancer control. To be sure, much remains to be done to decrease the existing disparities in cervical cancer screening in the United States. Cervical cancer risk is associated with poverty and other social determinants of health. Without a major multistakeholder effort to reduce inequity in health care reach and delivery, implementing primary HPV screening can only have a limited impact.

swers depend on a scientific foundation yet to come; but, when it does, the ACS will be ready to revise its guidelines.

In conclusion, the ACS is marshalling its considerable educational and knowledge dissemination resources to advance primary HPV screening in the United States and share best practices from countries that have done the same. As it has done for the past 110 years as a voluntary health organization dedicated to eliminating cancer, the ACS is using its national and international stature and credibility to help the country embrace one of the most important advances in cancer control. To be sure, much remains to be done to decrease the existing disparities in cervical cancer screening in the United States. Cervical cancer risk is associated with poverty and other social determinants of health. Without a major multistakeholder effort to reduce inequity in health care reach and delivery, implementing primary HPV screening can only have a limited impact.

There is an important nuance to our simplified opening quote attributed to Victor Hugo.[13] Primary HPV screening is much more than an idea whose time has come. Making it happen will require well concerted coordination on all implementation fronts, from setting the infrastructure, to aligning insurers, and to educating the public and

Radiology: Cardiothoracic Imaging

ORIGINAL RESEARCH

Comparative Effectiveness of Coronary CT Angiography and Standard of Care for Evaluating Acute Chest Pain: A Living Systematic Review and Meta-Analysis

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Purpose: To perform a living systematic review and meta-analysis of randomized controlled trials comparing the effectiveness of coronary CT angiography (CCTA) and standard of care (SOC) in the evaluation of acute chest pain (ACP).

Materials and Methods: Multiple electronic databases were systematically searched, with the most recent search conducted on October 31, 2022. Studies were stratified into two groups according to the pretest probability for acute coronary syndrome (group 1 with predominantly low-to-intermediate risk vs group 2 with high risk). A meta-regression analysis was also conducted using participant risk, type of SOC used, and the use or nonuse of high-sensitivity troponins as independent variables.

Results: The final analysis included 22 randomized controlled trials (9379 total participants: 4956 assigned to CCTA arms and 4423 to SOC arms). There was a 14% reduction in the length of stay and a 17% reduction in immediate costs for the CCTA arm compared with the SOC arm. In group 1, the length of stay was 17% shorter and costs were 21% lower using CCTA. There was no evidence of differences in referrals to invasive coronary angiography, myocardial infarction, mortality, rate of hospitalization, further stress testing, or readmissions between CCTA and SOC arms. There were more revascularizations (relative risk, 1.45) and medication changes (relative risk, 1.33) in participants with low-to-intermediate acute coronary syndrome risk and increased radiation exposure in high-risk participants (mean difference, 7.24 mSv) in the CCTA arm compared with the SOC arm. The meta-regression analysis found significant differences between CCTA and SOC arms for rate of hospitalization, further stress testing, and medication changes depending on the type of SOC ($P < .05$).

Conclusion: The results support the use of CCTA as a safe, rapid, and less expensive in the short term strategy to exclude acute coronary syndrome in low- to intermediate-risk patients presenting with acute chest pain.

Supplemental material is available for this article.

Abbreviations

ACP – acute chest pain, ACS – acute coronary syndrome, CAD – coronary artery disease, CCTA – coronary CT angiography, ED – emergency department, ICA – invasive coronary angiography, LOS – length of stay, LSR – living systematic review, MI – myocardial infarction, RCT – randomized controlled trial, RR – risk ratio, SOC – standard of care

Summary

The use of coronary CT angiography to evaluate individuals with low-to-intermediate risk for acute chest pain was associated with shorter length of emergency department and hospital stay and reduced immediate costs.

Key Points

- Coronary CT angiography (CCTA) demonstrated effectiveness as a safety strategy for evaluation of participants presenting with acute chest pain, showing similar incidence of myocardial infarction (relative risk, 0.86; 95% CI: 0.66, 1.12), all-cause mortality (relative risk, 0.96; 95% CI: 0.59, 1.58), and cardiovascular mortality (relative risk, 1.35; 95% CI: 0.59, 3.09), compared with usual care, irrespective of pretest probability.
- The number of referrals for invasive coronary angiography after CCTA was not statistically different from standard of care irrespective of pretest probability. However, there were more revascularizations (relative risk, 1.45; 95% CI: 1.09, 1.93) and changes in medication (relative risk, 1.33; 95% CI: 1.06, 1.67) in participants with low-to-intermediate risk of acute coronary syndrome and increased radiation exposure (mean difference, 7.24 mSv; 95% CI: 4.55, 9.94) in higher-risk participants in the CCTA arm.
- The use of CCTA in low- to intermediate-risk participants was associated with a 17% reduction in length of stay and a 21% decrease in immediate costs.

Keywords

THE END