Identifying barriers and potential strategies to improve HCC surveillance for HBV-infected veterans

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Background

- Hepatocellular carcinoma (HCC) incidence is rising in the US, with 8,500 to 11,500 new cases annually
- Hepatitis B virus (HBV) infection is associated with 5 to 15-fold increased risk of HCC
- HCC surveillance can lead to earlier detection and more successful treatment → Abdominal ultrasound recommended every 6 to 12 months for high-risk patients
- Overall adherence to HCC screening in the US has been low

Objective: 1) Determine HCC screening rates in HBV-infected veterans, and 2) Identify barriers to HCC surveillance among healthcare providers

Methods

Mixed methods study composed of:
1) Chart review of HBV-infected veterans from 2003-2014
   - Adherence to HCC screening ≥1 ultrasound/year among high-risk patients (defined as those with older age, cirrhosis, elevated liver aminotransferases or HBV viremia, or family history of HCC)
   - Secondary outcome: ≥1 abdominal imaging test (ultrasound, CT or MRI) among high-risk patients
   - Incident HCC cases also identified during the study period
2) Focus group discussions with primary care, infectious disease (ID) and gastroenterology (GI) providers
   - Any provider affiliated with the 3 clinics
   - Study team facilitated separate discussions for primary care (2 focus groups), GI (1) and ID (1).
   - Focus group interview guide used to prompt discussion

Results

Adherence to HCC screening among HBV-infected Veteran cohort:
- 201 Veterans, with median follow-up of 7.5 years
- 40 (20%), 114 (57%) and 47 (23%) seen by primary care, GI, and ID providers, respectively
- Based on guidelines by the American Association for the Study of Liver Diseases, 99/201 (49.3%) qualified for screening.
- Adherence to HCC screening was low overall (15%) and did not differ by provider type.

Potential barriers to HCC screening:
- Under-recognition of HBV infection
- Infrequent patient visits
- Lack of continuity of care → unable to establish patient-provider trust
- Lack of confidence in value of screening
- Low prioritization in medically complex care
- HBV management is complex and confusing
- Legistical challenges
- Patient non-adherence
- Practice variation within the Division
  - Type of abdominal imaging test
  - Late referral to Hepatitis Clinic
  - E.g. during Hepatitis flare

Lack of confidence in value of screening, thus prioritizing it below other preventive efforts
- Among GI providers, logistical barriers were main driver of low screening rates
- Tailored interventions are warranted to improve HCC screening
- Potential strategies include highlighting survival benefit of HCC surveillance in HBV-infected patients

Conclusions

- From 2003 to 2014, 5 definite and 3 possible HCC cases identified
- HCC screening led to 5 diagnoses; remaining 3 identified during work-up for abnormal findings
- All but 2 patients expired during study period from HCC or related complications. Median survival from diagnosis was 0.9 years (IQR 0.2-1.8)
- Among the 99 patients who met criteria for screening, HCC incidence was 0.88 cases per 100 person-years (p-y)
- HCC incidence was 2.9 cases/100 p-y among cirrhotics compared to 0.3 cases/100 p-y in non-cirrhotics.

ACKNOWLEDGEMENTS: This work was supported by the National Institutes of Health research grant T32 AI 055435 and the Penn CFAR HIV/Viral Hepatitis Scientific Working Group.