

Long-term risk for hepatocellular carcinoma in 1,167 African-born patients with chronic hepatitis B living in Sweden

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Background and aim

African origin has been identified as a potential risk factor for hepatocellular carcinoma (HCC) in chronic hepatitis B (CHB). Current international guidelines are not consistent in their recommendation for HCC surveillance in this group, and studies exploring this risk are limited. We aimed to assess the risk of HCC among African-born patients with CHB living in Sweden.

Methods

This is a retrospective cohort study of 1,167 African-born patients with CHB, attending Karolinska University Hospital, Stockholm and Sunderby Hospital, Northern Sweden. HCC incidence and cumulative risk were analyzed using Kaplan-Meier analysis.

Results

For baseline characteristics of the cohort, see Table 1. Median follow-up time was 6.5 years (IQR 2.7, 11.2). In total 12 cases of HCC occurred, characteristics are shown in Table 2. Four HCC cases (33%) occurred at age 30-40 years; all had additional risk factors and/or HBeAg+ at baseline with HBV DNA >7 log₁₀ IU/mL. The incidence rate of HCC was 0.11 (95% CI 0.05-0.21)/100 person-years. The cumulative risk at 3, 5 and 10 years was 0.29% (95% CI 0.0-0.62), 0.29 % (95% CI 0.0-0.62) and 0.64 % (85% CI 0.05-1.23), respectively (Figure 1).

Table 1. Baseline characteristics of the whole cohort

BASELINE CHARACTERISTICS	Whole cohort, N = 1,167	Men, N = 699	Women, N = 468
Age, years (IQR)	33.3 (26.8, 40.5)	34.3 (27.2, 41.5)	32.2 (26.0, 39.3)
Origin, UN African regions, n (%)			
Eastern Africa	595 (51.0)	335 (47.9)	260 (55.6)
Western Africa	364 (31.2)	242 (34.6)	122 (26.1)
Other regions	208 (17.8)	122 (17.4)	86 (18.4)
HIV co-infection, n (%)	81 (6.9)	46 (6.6)	35 (7.5)
HDV co-infection, n (%) (missing =163)			
Anti-HDV positive	45 (4.5)	29 (4.9)	16 (3.9)
HDV-RNA positive	16 (35.6)	7 (24.1)	9 (56.2)
HBV genotype, n (%)			
A	177 (32.3)	91 (26.2)	86 (42.8)
D	161 (29.4)	102 (29.4)	59 (29.4)
E	200 (36.5)	146 (42.1)	54 (26.9)
Other (B,C,F)	10 (1.8)	8 (2.3)	2 (1.0)
Missing	619	352	267

Table 2. Characteristics of patients with HCC diagnosis

CHARACTERISTICS of HCC CASES, N=12	
Age at HCC diagnosis, years (SD)	47.6 (±11.8) (min 33 - max 68)
Male gender, n (%)	11 (91.7%)
Eastern / Western Africa, n (%)	5 (41.7%) / 7 (58.3%)
Risk factors: alcohol / HIV / anti-HDV+, n (%)	1 (8.3%)/2 (16.7%)/1 (10.0%)
HBeAg +, n (%)	3 (25.0%)
HBV genotype, n (%), (missing n=7)	Genotpe A: 2 (40%) Genotype E: 3 (60%)
Quantitative HBV DNA log10 IU/mL, median (IQR), (missing n=2)	6.1 (5.5, 7.4)
Cirrhosis before HCC diagnosis, n (%)	10 (83.3%)
Cirrhosis at baseline, n (%)	4 (33.3%)
PAGE-B risk of moderate/high at baseline, n (%)	Moderate: 11 (91.7%) High: 1 (8.3%)

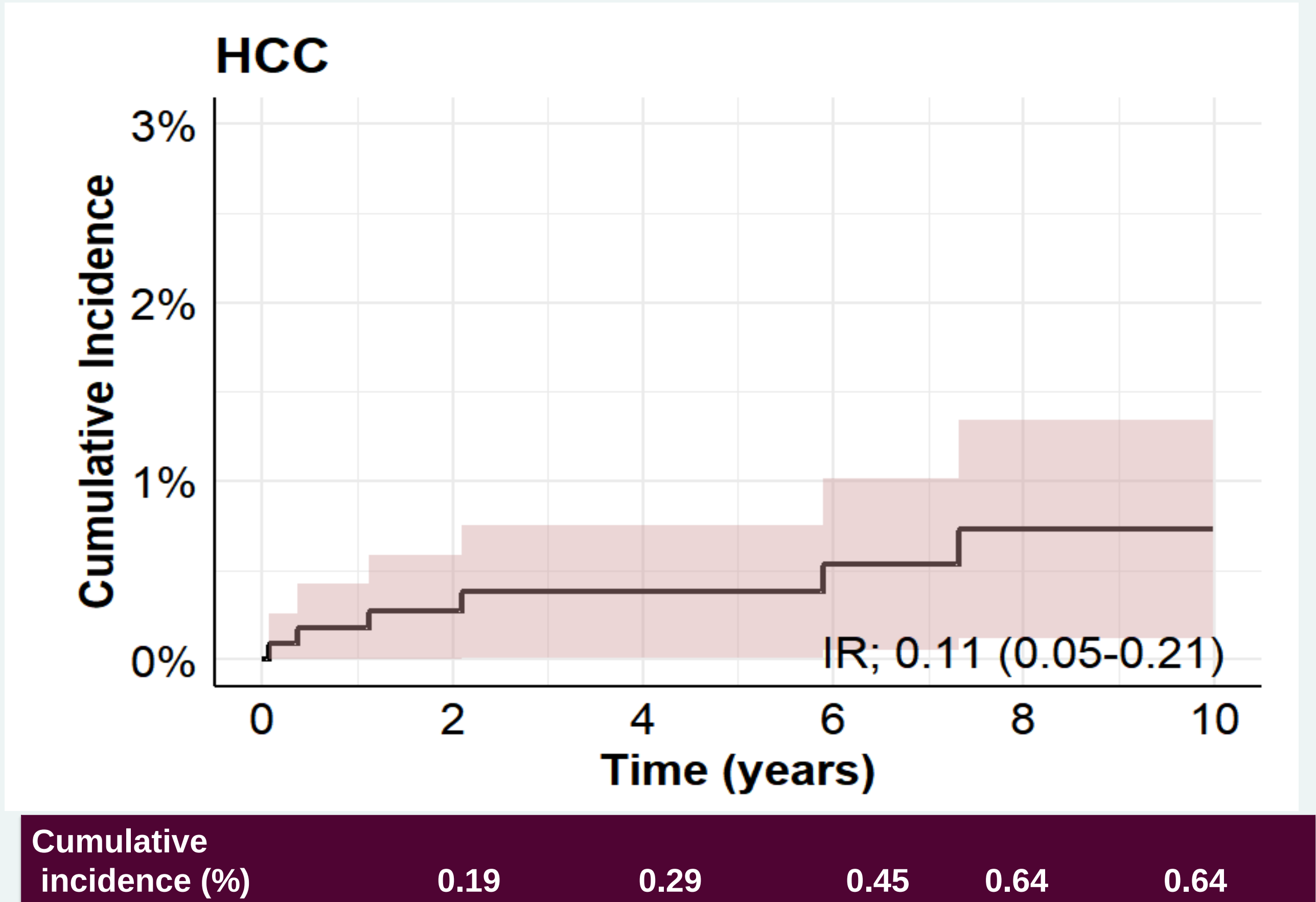
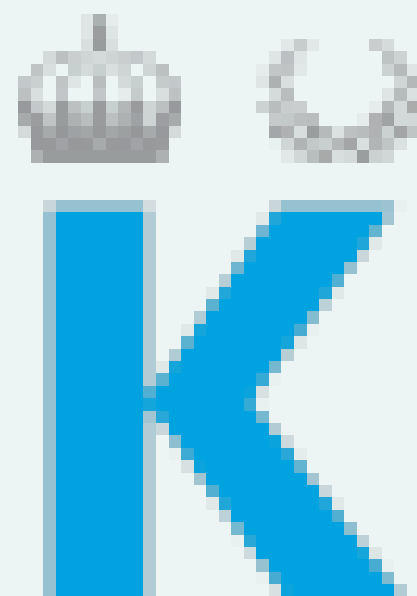


Figure 1. Incidence rate and cumulative incidences per 100 persons of HCC .

Conclusion

In this large cohort of African-born patients with CHB in Sweden the overall HCC incidence was low, but a few cases occurred already in the age group of 30-40 years. These had other risk factors, and all had at least intermediate PAGE-B scores. Our findings suggest that an individualized approach to surveillance, considering PAGE-B together with additional cofactors, may improve early detection of HCC in younger African-born patients with CHB.



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