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CHANGES IN LIVER CANCER SURVIVAL IN HIV INFECTION AFTER MANAGEMENT OPTIMIZATION

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ABSTRACT

BACKGROUND: Hepatocellular carcinoma (HCC) has been an important cause of morbidity and mortality in HIV-infected patients during the last twenty years. Previous studies have shown that the survival after HCC diagnosis in HIV-infected patients is extremely low, mainly as a consequence of late diagnosis and a low rate of treatment. This scenario may be changing in recent years, partly due to the systematic HCC surveillance program implementation in this population. Because of this, we assessed changes over time in the management of HCC and its impact on survival in HIV/HCV-coinfected patients.

PATIENTS AND METHODS: Multicenter cohort study (1999-2019). HCC cases diagnosed in HIV-infected patients from the GEHEP-002 cohort were included. The cohort was divided into 2 time periods, according to the year of HCC diagnosis (1999-2009 vs 2010-2019) and the characteristics of the cases were compared between these two periods, including the survival after HCC diagnosis.

RESULTS: 373 patients were included, 120 (32%) in the 1999-2009 period (1st period) and 253 (68%) in 2010-2019 (2nd period). In the 1st period, HCC diagnosis after SVR occurred in 12 (10.5%) patients compared with 66 (27%) in the 2nd period ($p < 0.001$). There was a greater proportion of HCC diagnosis by screening in the 2nd period [1st period, 46 (38%) patients vs 2nd period, 129 (51%); $p = 0.02$]. Likewise, there was a greater frequency of early diagnosis (BCLC stage 0-A) in the 2nd period [1st period, 25 (21%) patients vs 2nd period, 95 (37.5%); $p = 0.001$]. Sixty-four (53%) patients received some treatment strategy for HCC in 1999-2009 period, whereas 186 (73.5%) patients were treated for HCC in the 2nd period ($p < 0.001$). Furthermore, the proportion of curative therapies was higher in the 2nd period [1st period, 28 (23%) vs 2nd period, 109 (43%); $p < 0.001$]. The median survival (Q1-Q3) after HCC diagnosis was 6 (2.93-9.07) months in 1999-2009 and 16 (9.9-22.1) months since 2010 ($p = 0.035$).

CONCLUSIONS: The HCC clinical management in HIV-infected patients has improved in the last decade in Spain. Thus, the proportion of early diagnosis has increased, possibly due to an increasing rate of HCC detection by surveillance, resulting in a greater number of curative therapies. Consequently, the HCC survival in HIV-infected patients has considerably lengthened in recent years.

BACKGROUND

- Hepatocellular carcinoma (HCC) has been an important cause of morbidity and mortality in HIV-infected patients during the last twenty years.
- Previous studies have shown that the survival after HCC diagnosis in HIV-infected patients is extremely low, mainly as a consequence of late diagnosis and a low rate of treatment.
- This scenario may be changing in recent years, after the implementation of a national program of HCV-related HCC management in the Infectious Diseases Units across the GEHEP-002 centers in Spain.

OBJECTIVE

- To assess changes over time in the management of HCC and its impact on survival in HIV/HCV-coinfected patients.

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PATIENTS AND METHODS

Study design

- Multicenter cohort study (1999-2019).

Patients and management

- The GEHEP-002 cohort (ClinicalTrials.gov ID: NCT02785835) recruits HCC cases diagnosed in HIV-infected patients from 32 centers from Spain.
- HCC cases occurring before 2010 were retrospectively included. From this date, new HCC cases were prospectively recruited. Educational activities and standardization of management were implemented across the participant centers.
- Surveillance of HCC was done by the performance of an abdominal ultrasound every 6 months in patients with cirrhosis, including those achieving SVR.
- HCC staging was established by the Barcelona-Clinic Liver Cancer (BCLC) staging system. HCC treatment was done according to the decision of a multidisciplinary team from each center following EASL recommendations.
  - Briefly, early stages (BCLC 0-A) were allocated to curative therapies (ablative ones, surgical resection or liver transplant) while BCLC stage B was treated with transarterial chemoembolization (TACE) and BCLC stage C underwent systemic non-curative treatments.

Statistical analyses

- The cohort was divided into 2 time periods, according to the year of HCC diagnosis (1999-2009 vs 2010-2019) and the characteristics of the cases were compared between these two periods, including the survival after HCC diagnosis.

RESULTS

Table 1. Baseline characteristics of the study population (n = 373)

Parameter	1999-2009 period (n = 120)	2010-2019 period (n = 253)	p
Age (years)[1]	47 (45-51)	51 (48-54)	< 0.001
Male sex, n (%)	110 (92)	228 (90)	0.632
Daily alcohol intake ≥ 50 g, n (%)	25 (21)	75 (30)	0.063
HCV genotype 3, n (%)	38 (32)	68 (27)	0.338
AFP > 50 UI/ml, n (%)	62 (55)	116 (49)	0.318
Previous SVR, n (%)	12 (11)	66 (27)	< 0.001
Previous US screening, n (%)	46 (38)	129 (51)	0.02
BCLC stage at diagnosis, n (%)			0.001
BCLC 0-A	25 (21)	95 (38)	
BCLC B	22 (19)	41 (16)	
BCLC C	43 (36)	81 (32)	
BCLC D	29 (24)	36 (14)	

[1]Median (Q1-Q3). AFP: alpha-fetoprotein; SVR: sustained virological response; US: ultrasound; BCLC: Barcelona-Clinic Liver Cancer.

Table 2. Treatment strategies for HCC by period of diagnosis

Best treatment received, n (%)	1999-2009 period (n = 120)	2010-2019 period (n = 253)
Curative therapies	28 (23.3%)	109 (43.1%)
Ablative therapies	10	52
Surgical resection	9	40
Liver transplant	9	17
Non-curative therapies	36 (30%)	77 (30.4%)
Transarterial chemoembolization	27	38
Sorafenib	9	39
No therapy	56 (46.7%)	67 (26.5%)

RESULTS

Figure 1. Rates of HCC diagnosis by screening, early stage diagnosis and curative treatments according to diagnosis period

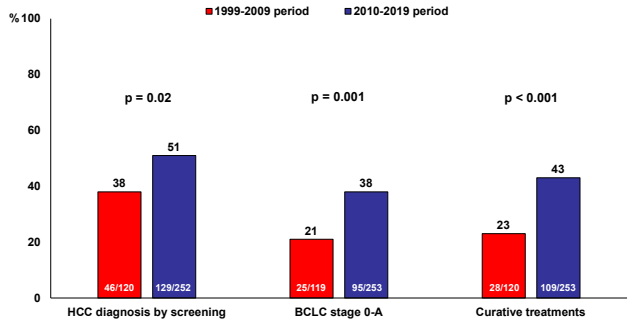
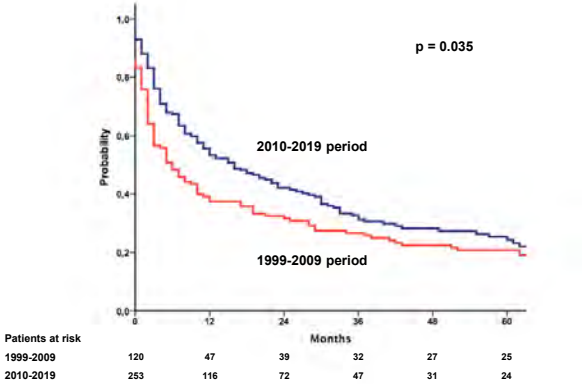


Figure 2. Probability of survival after HCC diagnosis according to diagnosis period



CONCLUSIONS

- The clinical management of HCC in HIV-infected patients has improved in the last decade in Spain.
- Thus, the proportion of early diagnosis has increased, possibly due to an increasing rate of HCC detection by surveillance, resulting in a greater number of patients receiving curative therapies.
- Consequently, the HCC survival in HIV-infected patients has considerably lengthened in recent years.

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