Hepatocellular carcinoma and metabolic risk factors in a main reference center in Italy

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EASL The Home of Hepatology
THE INTERNATIONAL LIVER CONGRESS™ 2017
19-23 APRIL, AMSTERDAM, THE NETHERLANDS

EPoS Elucidating Pathways of Steatohepatitis

INTRODUCTION

Hepatocellular carcinoma (HCC) is increasingly reported to be related with metabolic risk factors, mostly in patients with nonalcoholic fatty liver disease (NAFLD). Particularly, obesity, type 2 diabetes mellitus (T2DM), and dyslipidemia are the most common metabolic risk factors associated with NAFLD. Among the components of metabolic syndrome, current evidence strongly indicates obesity and diabetes as main risk factors for hepatocellular carcinoma (HCC)

AIM

Our aim was to evaluate the impact of metabolic factors and the related NAFLD in the recurrence, severity and therapy of HCC.

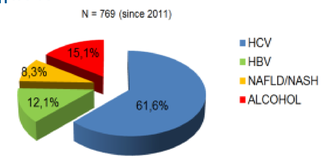
METHOD

Following the introduction of a centralized specialist team to manage patients with HCC, we characterized the demographics of patients referred to the GI Division at the University Hospital of Torino and sought the relationship between the severity of HCC and their metabolic comorbidities. In total 1039 patients with HCC were consecutively referred since 2011

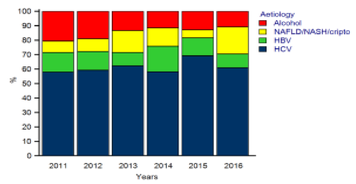
RESULTS

The clinical, epidemiological and metabolic characteristics of HCC affected patients are shown in figures 1 A and B

1A



1B



Overall, NAFLD accounted for 8.3% of all cases of HCC (Figure 1 A), but the temporal trends of aetiology from 2011 to 2016 show an increase of NAFLD/NASH-related HCC, decrease of alcohol–related and a substantial stability of HBV and HCV related cases

Figure 2 shows the prevalence of Type 2 Diabetes according to aetiology. As expected, the highest prevalence is observed in HCC patients affected by NAFLD/NASH.

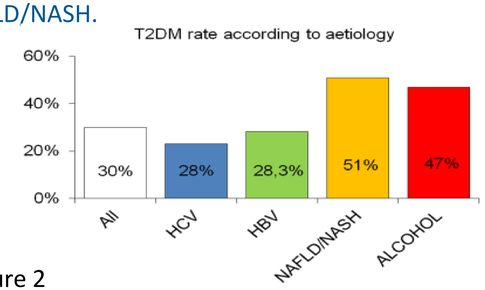
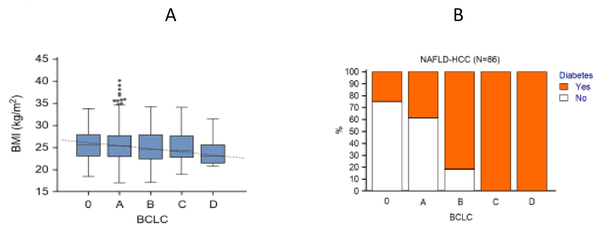


Figure 2

The Barcelona Clinic Liver Cancer (BCLC) stage was inversely related with BMI (OR 0.64, 95% CI 0.42-0.98; p=0.0384) in the whole cohort (Figure 3A).

In the NAFLD-HCC cohort it was also directly and strongly related to the presence of DM (OR 11.3, 95% CI 2.1-62.1; p=0.0052)(Figure 3B).

Figure 3



The presence of T2DM was associated with a higher likelihood of loco-regional and/or palliative treatments compared to liver transplant or pharmacological therapy (Figure 4 A). When HCC patients were subdivided according to aetiology, the access to therapeutic options was not significantly different across groups (Figure 4 B).

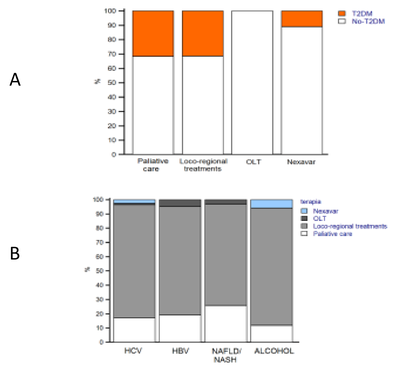


Figure 4

Finally, tumor size (expressed as < 3 cm ore > 3 cm) was inversely related with waist circumference, only in the NAFLD-HCC cohort (p=0,005; figure 5 A-B), suggesting a lower surveillance or a more aggressive behavior in patients with non obese-NAFLD/NASH

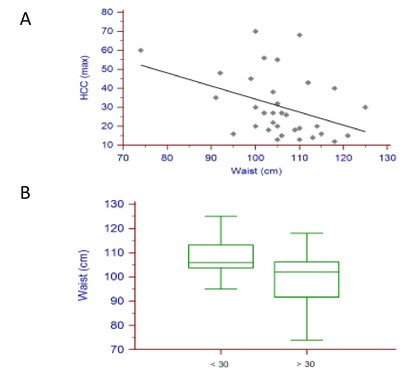


Figure 5

CONCLUSIONS

The presence of DM is associated with HCC severity according to BCLC score in the NAFLD-HCC cohort and it is also associated with less likelihood of surgical treatment in the whole HCC cohort. In the NAFLD-HCC cohort, HCC severity, expressed as tumor size, was inversely related with waist circumference.

ACKNOWLEDGEMENTS

Funded by FP7/2007-2013 under grant agreement n° HEALTH-F2-2009-241762, project FLIP; PRIN 2009 ARYX4T; Horizon 2020 under grant agreement no. 634413, project EPoS.

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