**TRENDS IN HEPATOCELLULAR CARCINOMA AMONG PEOPLE RECEIVING OPIOID SUBSTITUTION THERAPY WITH AN HCV NOTIFICATION IN NEW SOUTH WALES, AUSTRALIA BETWEEN 2000 AND 2014**

Waziry R1, Grebely J1, Amin J1, Alavi M1, Hajarizadeh B1, Degenhardt L2, Larney S2, George J3, Matthews GV1, Law M1, Dore GJ1.

1The Kirby Institute, UNSW Australia, Sydney, Australia, 2National Drug and Alcohol Research Centre, UNSW Australia, Sydney, Australia, 3Storr Liver Centre, Westmead Millennium Institute for Medical Research and Westmead Hospital, University of Sydney, Sydney, Australia.

**Aims:** The aim of this study was to assess trends in hepatocellular carcinoma (HCC) hospitalization among people with an HCV notification and receiving opioid substitution therapy in New South Wales, Australia.

**Methods:** All persons notified with HCV between 1993 and 2012 in NSW, Australia were linked to data on hospitalizations (2000-2014) and the pharmaceutical drugs of addiction (PHDAS) (1985-2014). The study population included individuals with HCV notification who had ever received OST, including prior to HCV diagnosis. Two analyses were undertaken. *First,* temporal trends in HCC stratified by OST (based on first HCC hospitalization) per year were calculated. *Second,* an analysis of time from HCV diagnosis to HCC hospitalization including OST as a time dependent variable was undertaken using Fine and Gray competing risk analyses.

**Results:** Over the study period a total of 96,908 persons were notified with HCV, among which 29,942 (31%) had ever received OST. Burden of HCC has increased for both ever OST (12 in 2001-2003 to 59 in 2011-2013) and never OST (140 in 2001-2003 to 431 in 2011-2013). The proportion of people who developed HCC was lower for the ever OST (0.5%, n=152) compared to the never OST (1.8%, n=1,157) group. In adjusted Cox proportional hazards analyses, HCC risk was higher in later study period (2010-2014) (HR=1.2, 95% 1.01, 1.4), older age (5 year interval) (HR=1.06, 95% CI 1.06, 1.07), male gender (2.50, 95% CI 2.15, 2.92), Asia-Pacific country of birth (HR=2.29, 95% CI 1.92, 2.74), HBV/HCV co-infection (HR=1.32, 95% CI 1.01, 1.73), and alcohol dependency (HR=3.35, 95% CI 2.90, 3.87). HCC risk was lower in rural place of residence (HR=0.66, 95% CI 0.56, 0.78) and ever OST (HR=0.32, 95% CI 0.27-0.39). There was no association with HBV/HIV coinfection.

**Conclusion:** The burden of HCC is increasing for the HCV population related to the ageing nature of this population and the suboptimal treatment uptake and outcomes. The ever OST population appears to be at lower risk of HCC, following adjustment for factors including age. The explanation for this lower risk is unclear and requires further investigation.

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