

Best Orals – 3rd Prize:

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ABSTRACT TITLE:

The autotaxin-lysophosphatidate axis plays a key role in the pathogenesis of Hepatitis C virus-associated Hepatocellular carcinoma

ABSTRACT TEXT:

Objective: The autotaxin (ATX)-lysophosphatidate (LPA) axis is important in various cancers, linked to tumour progression and metastasis, including Hepatocellular carcinoma (HCC). This study aimed to investigate the prevalence and role of ATX in HCV-associated HCC as compared with other aetiologies.

Method: Immunohistochemical and RNA analysis for ATX was performed on archival HCC of various aetiologies, cell line models for HCV infection and humanized SCID/uPA mouse liver models. In-vitro experiments were performed to establish the role of ATX in HCV pathogenesis.

Results: ATX was up-regulated within tumour cells in all HCV HCC cases, 50% of Hepatitis B, 25% of cirrhotic and none of the non-cirrhotic associated tumours. Increased expression was also observed in virus-infected hepatocytes within the mouse liver models. In-vitro studies revealed ATX-dependent HCV replication via stabilisation of HIF1 +.

Conclusion: To summarise, our data identified a bias towards ATX expression in tumour cells, specifically association with Hepatitis C virus (HCV) and that ATX plays a key role in HCV replication.