



What is the Association Between Pancreatic Cancer and Hepatitis B?

Abi R¹, Adil FZ¹, Akir S², Elkochri S¹, Tagajdid MR¹, Elannaz H¹, Laraqui A¹, Lahlou Amine I¹ and Ennibi K¹

¹Department of Virology, Mohammed V Military Teaching Hospital, and Mohammed V University, Morocco

²Department of Gastroenterology, Mohammed V Military Teaching Hospital, and Mohammed V University, Morocco

Abstract

Pancreatic cancer poses a clinical challenge with a grim prognosis, emphasizing the imperative for early detection and identification of associated risk factors to enhance outcomes. This case report delves into the intricate physiopathological mechanisms potentially linking chronic viral hepatitis B to the initiation of pancreatic cancer.

Keywords: Pancreatic cancer; Hepatitis B; HBO

Introduction

Pancreatic cancer presents a challenging prognosis, underscoring the importance of early detection through the identification of associated risk factors for improved outcomes. This case report aims to elucidate the physiopathological mechanisms through which chronic viral hepatitis B may play a contributory role in the onset of pancreatic cancer.

Case Presentation

A 39-year-old patient has been admitted to the hospital due to epigastric pain that has not responded to symptomatic treatment. Clinical examination unveiled tenderness in the epigastric region, and radiological investigations identified an Intraductal Papillary and Mucinous tumor (IPMN) with indications of malignant transformation.

Viral serology results indicated the absence of Hepatitis B surface Antigen (HBsAg) and Hepatitis B surface Antibody (anti-HBs Ab), but the presence of total anti-Hepatitis B core Antibody (anti-HBc Ab). Furthermore, quantitative analysis of Hepatitis B Virus (HBV) DNA through real-time PCR yielded a positive result (<20 IU/ml), confirming the diagnosis of occult viral Hepatitis B (HBO).

Discussion

The initial documentation of pancreatic Hepatitis B Virus (HBV) replication dates back to 1980 when Hoefs detected HBsAg in the pancreatic juice of individuals confirmed to have HBV infection. Studies have revealed elevated levels of pancreatic enzymes in both serum and urine among patients with chronic HBV infection [1]. The oncogenic potential of HBs and HBx proteins is well-established; the HBx protein is known to transactivate both HBV and cellular genes, influencing host gene expression and contributing to the development of cancer [2].

In exploring the correlation between Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) infections and the risk of pancreatic cancer, a study revealed a noteworthy association. The research demonstrated a significant link between previous exposure to HBV (anti-HBc-positive), regardless of whether there was evidence of HBV recovery or immunity (anti-HBs-positive or negative), and an elevated risk of pancreatic cancer [3]. Xue Liu et al. performed a meta-analysis to provide summary estimates of the risk of pancreatic cancer associated with HBV infection, individuals with Hepatitis B surface Antigen (HBsAg) or HBV DNA seropositivity had a significantly increased risk of pancreatic cancer [4].

Conclusion

Additional investigations are essential to further understand the association between viral hepatitis B and pancreatic cancer. Simultaneously, there is a need for in-depth studies to elucidate the underlying pathophysiological mechanisms involved in this relationship.

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*Correspondence:

Rachid Abi, Department of Virology,
Mohammed V Military Teaching
Hospital, and Mohammed V University,
Morocco

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