

Multiplicity of Risk Factors for Chronic Viral Hepatitis B and C Infections in Pakistani Patients

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Abstract

Introduction: Pakistan, with a population of 180 million, has a 5% prevalence of hepatitis C and a 2.5% prevalence of hepatitis B. Although several studies have looked at individual risk factors, in particular, the practice of unsafe injections, there are many unresolved questions regarding the epidemiology of chronic hepatitis B and C infections in Pakistan.

Objective: To assess the potential risk factors for hepatitis B and C infections in Pakistani patients.

Methods: Consecutive patients with chronic hepatitis B or C presenting to a private gastroenterology clinic in Karachi, Pakistan were interviewed regarding potential risk factors for acquiring their infections.

Results: 389 patients were interviewed, 239 (61%) with chronic hepatitis C and 150 (39%) with chronic hepatitis B. 308 (79%) had more than one potential risk factor for viral infection. 71 (18%) had one risk factor and 12 (3%) had no identifiable risk factors. The following risk factors were identified: blood transfusion (96, 25%), surgery (171, 44%), dental work (202, 52%), injections (310, 80%), body piercings (144, 37%), spousal transmission (15, 4%), IVDU (1, 0.2%), hemodialysis (4, 1%), tattoos (1, 0.2%), sexual (1, 0.2%), and vertical transmission (5, 1%). 74 (11%) patients had a first degree relative with hepatitis B or C. Of the 71 patients with a single risk factor, in 58 (82%) the risk factor was having received an injection.

Conclusion: It is only by understanding the epidemiology of the acquisition of chronic hepatitis B and C infections in Pakistan that effective efforts can be made to control the spread of these infections. Most patients have multiple potential risk factors, highlighting the need for a multipronged approach to the control of these risk factors. Parenteral injections remain the single most common risk factor for infection.

Introduction

A recent population based epidemiologic study revealed that the prevalence of hepatitis C in Pakistan is 4.9% and the prevalence of hepatitis B is 2.5% [1]. There is strong evidence to suggest that a vast majority of these chronic viral infections in Pakistan have occurred due to the widespread practice of reusing needles and syringes. However, there is a need for more data on the source of all these infections. Only after a thorough understanding of the epidemiology, can one begin to design and implement the interventions needed to prevent further infections.

The objective of this study was to better understand the risk factors for chronic hepatitis B and C in Pakistani patients.

Methods

Consecutive patients with chronic hepatitis B or C presenting to a private gastroenterology clinic in Karachi, Pakistan were interviewed regarding potential risk factors for acquiring their infections. The following risk factors were specifically asked about- blood transfusion, surgery, dental work, body piercings, hemodialysis, intravenous drug use, tattoos, sexual exposures, parenteral injections, and family history. Institutional Review Board approval was obtained for this study.

Results

389 patients were interviewed; the average age was 43 years and 235 (60.4%) were male. 239 (61%) with chronic hepatitis C and 150 (39%) with chronic hepatitis B. 308 (79%) had more than one potential risk factor for viral infection. 71 (18%) had one risk factor and 12 (3%) had no identifiable risk factors. The following risk factors were identified: blood transfusion (96, 25%), surgery (171, 44%), dental work (202, 52%), parenteral injections (310, 80%), body piercings (144, 37%), spousal transmission (15, 4%), intravenous drug use (IVDU) (1, 0.2%), hemodialysis (4, 1%), tattoos (1, 0.2%), sexual exposure (1, 0.2%), and vertical transmission (5, 1%). 74 (11%) patients had a first degree relative with hepatitis B or C. Of the 71 patients with a single risk factor, in 58 (82%) the risk factor was having received an injection.

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Discussion

In this study of patients with chronic hepatitis B and C, 79% of patients had more than one potential risk factor for acquiring these infections. The single most common risk factor was parenteral injections. Other common risk factors included parenteral injections, dental work, and surgery. Eleven percent of patients had a first degree relative with the same infection. Others have shown that unsafe injections are a significant risk factor in Pakistan [2]. The World Health Organization has said that up to 80% of hepatitis C infections in Pakistan are due to this practice [3]. Our study supports these previous observations and suggests that other potential risk factors should not be overlooked. The presence of a particular risk factor does not prove causality. Although the majority of subjects in this study reported multiple risk factors, it is impossible to say with certainty which risk factor was ultimately responsible for their individual infections. Previous studies have documented the unsafe status of the blood supply in Pakistan. A study by Luby and colleagues found that only 23% of blood banks in Pakistan's biggest city of Karachi were appropriately screening for hepatitis C [4]. Chronic

hepatitis B and C are major problems in Pakistan. Control of the infections requires an understanding of the risk factors and reasons behind the acquisition of these infections. Our study shows that most patients have multiple potential risk factors, highlighting the need for a multipronged approach to the control of these risk factors. Unsafe injection practices remain the single most important factor that needs to be addressed.

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