

MANAGEMENT OF HEPATITIS B VIRUS INFECTION IN SPECIAL CLINICAL SITUATIONS: A PRACTICAL APPROACH

MD. HABIBUR RAHMAN¹

Hepatitis B virus (HBV) infection remains a significant public health burden in Bangladesh and other endemic regions, with unique challenges arising in special clinical situations. Management becomes more complex in special clinical situations such as pregnancy, chronic kidney disease (CKD), immunosuppressive therapy, and coinfections. These scenarios require individualized strategies to prevent transmission, disease progression, and viral reactivation. In pregnancy, prevention of mother-to-child transmission is a key priority. Universal antenatal screening, risk stratification based on HBV DNA levels, and timely initiation of antiviral therapy—preferably tenofovir in the third trimester for high viral load—significantly reduce vertical transmission. Administration of hepatitis B immunoglobulin and vaccination ideally within 12 hours of birth further enhances protection, making transmission largely preventable. Breastfeeding is considered safe. In patients with CKD and those undergoing dialysis or renal transplantation, HBV poses additional risks due to impaired immunity and increased exposure. Early screening, intensified vaccination schedules, and the use of renal-safe antivirals such as tenofovir alafenamide play a crucial role in management. HBV reactivation is a well-recognized risk in patients receiving immunosuppressive therapy, including chemotherapy and biologics. Risk stratification, pre-treatment screening, and timely initiation of prophylactic antiviral therapy—ideally before immunosuppression—are critical in preventing adverse outcomes. In the setting of liver transplantation, combination prophylaxis with nucleoside analogues and HBIG effectively prevents graft reinfection. Management becomes more complex in cases of HBV coinfection with HIV, HDV or HCV requiring coordinated antiviral strategies. Evidence-based, practical approaches to managing HBV in special clinical situations are highlighted, with emphasis on prevention, early intervention, and tailored therapy to improve patient outcomes.

Keywords: Hepatitis B virus (HBV), Mother-to-child transmission, Antiviral prophylaxis

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Affiliation:

1. Proressor (Ex.), Department of Gastroenterology, Sir Salimullah Medical College, Dhaka, Bangladesh. E-mail: rahman.hm16@gmail.com