Can a peptide cure chronically infected Hepatitis B and D patients? Recent clinical results on Myrcludex B/bulevirtide

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Entry inhibition is a novel and interesting, potentially curative opportunity to treat viral infections. Hepatitis B (HBV) and Hepatitis D virus (HDV) are highly liver specific and exploit sodium taurocholate co-transporting polypeptide (NTCP) as a specific receptor to enter hepatocytes. The large envelope protein (L-) of HBV plays a pivotal role in this process. Synthetic lipopeptides derived from the N-terminus of the HBV L-protein have been shown to potentially interfere with HBV/HDV receptor interaction. A lead substance of such peptides (Myrcludex B/Bulevirtide) has been developed into the clinical stage. This peptidic drug opened a novel therapeutic option to treat chronically HBV/HDV infected patients either as a monotherapy or in combination with approved drugs like IFN-a or TDF. In my talk, I will discuss the current state of the art of entry inhibition for HBV/HDV and report the results of recently performed clinical trials (Myr-202 and Myr 203) B in chronically HBV/HDV infected patients. These results indicate that Myrcludex B as the first in class entry inhibitor for HBV/HDV bears curative potential.