

VIRAL HEPATITIS B AND C SEROCONVERSION RATES IN INCIDENT HEMODIALYSIS PATIENTS: A COHORT REGISTRY-BASED STUDY

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OBJECTIVES

Hepatitis B and C virus (HBV and HCV) are among the common infections in hemodialysis (HD) patients. We analyzed seroconversion rates (SR) in incident HD cohort.

METHODS

We analyzed the Russian Registry of Renal Replacement Therapy with inclusion of patients started HD from 1.1.2004 till 31.12.2013. Analysis of SR were performed separately for HBV and HCV with inclusion of patients having negative markers for HBV and HCV, respectively, at HD initiation. Analysis of HBV SR included 28,314 patients with median follow-up 19.8 months (IQR 7.2-43.4), accounting for 60,226 patient-years and 1,362 seroconversion events. Analysis for HCV SR included 28,333 patients with median follow-up 19.7 months (IQR 7.4-42.9), accounting for 59,991 patient-years and 1,498 seroconversion events.

RESULTS

During period 2004-2008 years SR for HBV and HCV was 2.1 (95%CI 2.0-2.3) and 2.7 (95%CI 2.6-2.9) events per 100 patient-years of follow-up ($P < 0.0005$). During period 2009-2013 years SR for HBV and HCV didn't significantly differ — 2.4 (95%CI 2.2-2.6) and 2.2 (95%CI 2.0-2.4) events per 100 patient-years of follow-up ($P = 0.13$). For period 2009-2013 years 66.9% of all HBV and 57.9% of all HCV seroconversions occurred during first 6 months after HD initiation. SR during first 6 months was significantly lower for the cohort started HD in period 2009-2013 years in comparison with preceding 5-year period only for HCV ($P < 0.005$) but not HBV ($P = 0.32$). SR in historical period 2009-2013 years was significantly lower both for HBV and HCV during 7-12 months and second year from HD initiation (figure).

CONCLUSIONS

Overall, seroconversion rates remain substantial for both HBV and HCV, especially during the first six months from HD start. Absence of decline in HBV SR during the first six months of HD treatment between analyzed historical periods suggest the need in improving HBV vaccination, with major efforts focused on early detection of kidney disease at pre-dialysis stage and control of HBV vaccination response.

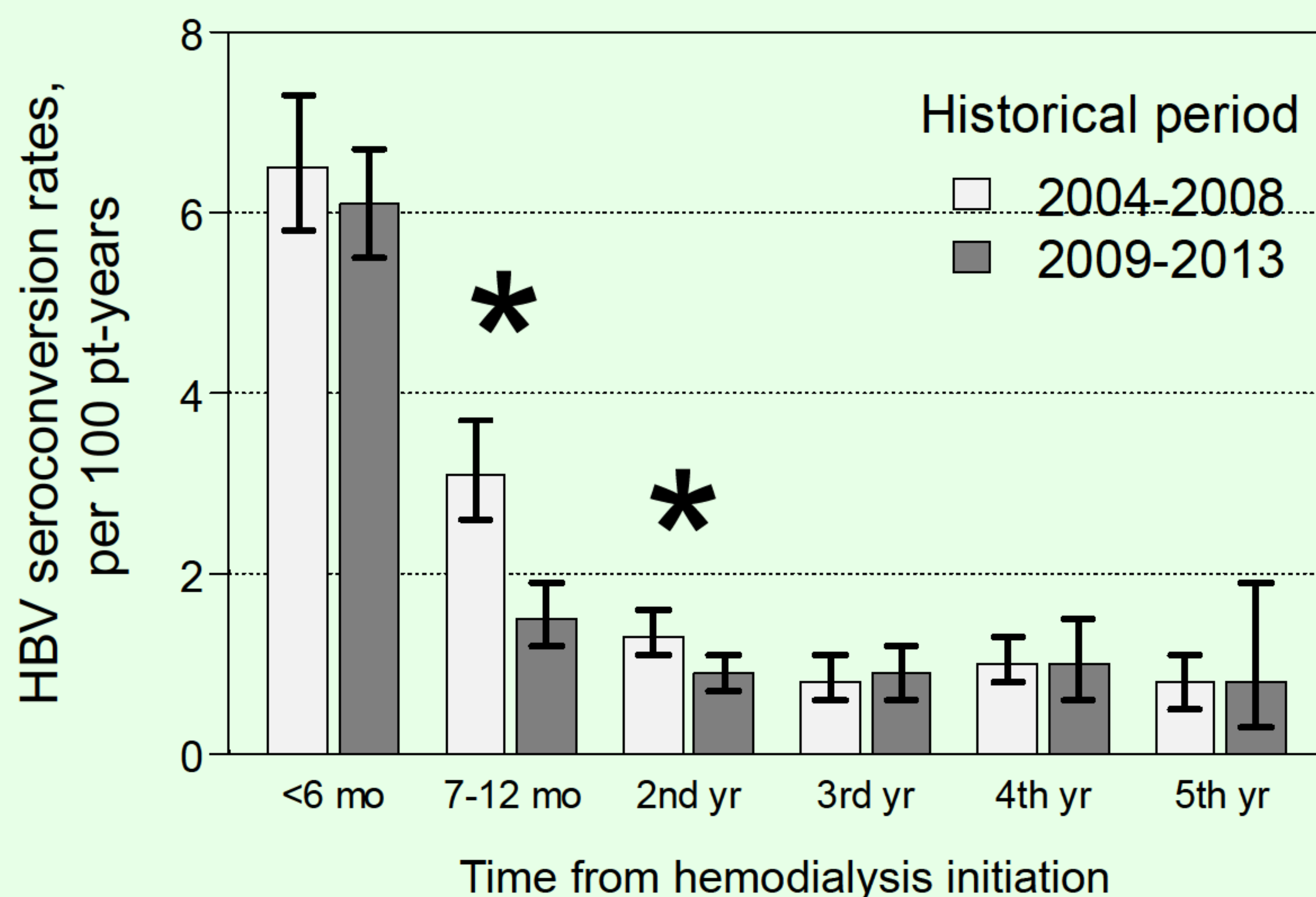
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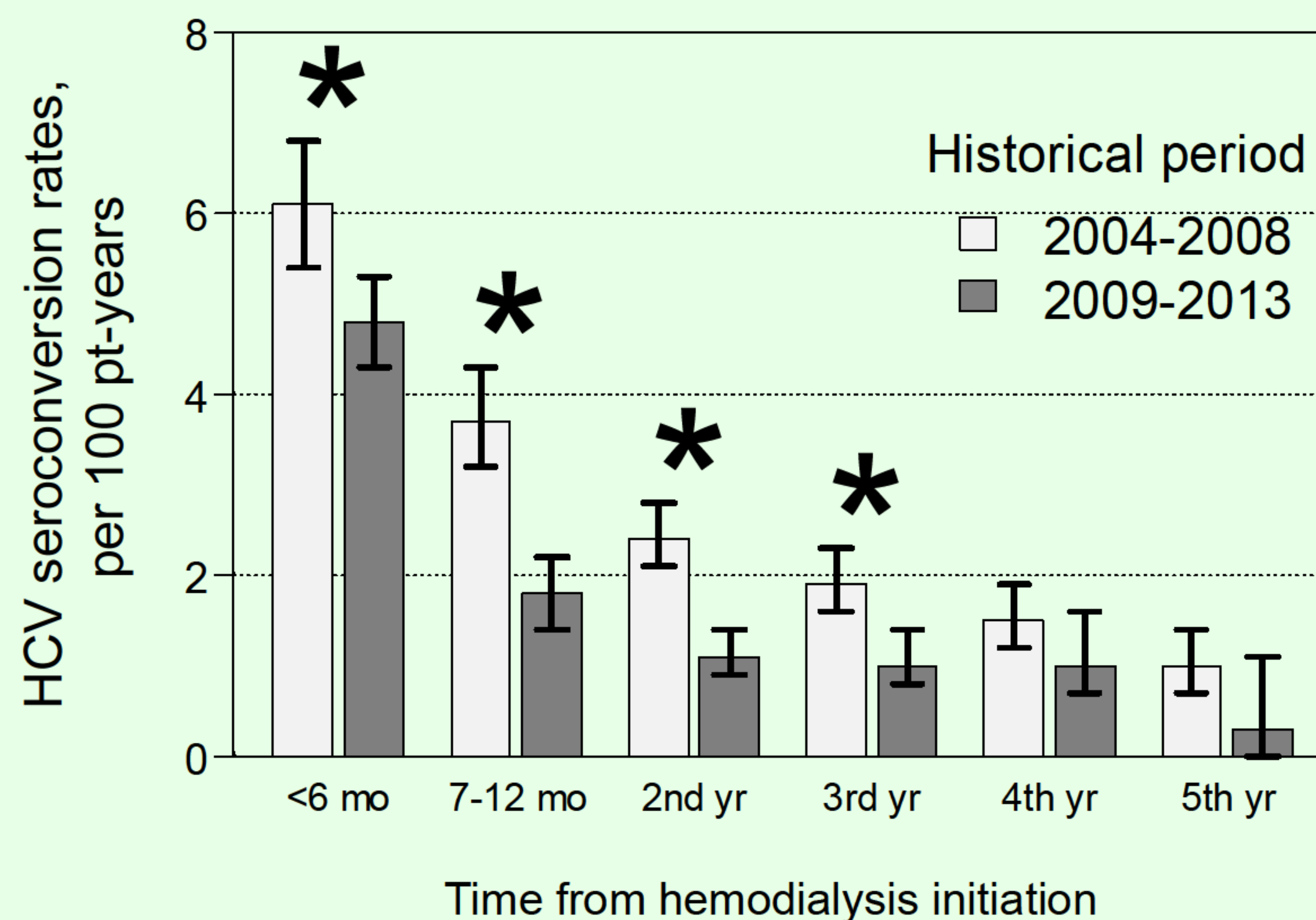
RESULTS

Figure. Seroconversion rates for hepatitis virus B (A) and C (B), according time from dialysis initiation and historical period

A) HBV seroconversion rates



B) HCV seroconversion rates



*** $P < 0.05$

