

## Perinatal vaccination with Sci-B-Vac is more effective than Engerix-B in Preventing Hepatitis B Virus Transmission: A Randomized Controlled Trial

Rifaat Safadi

Hadassah-Hebrew University Hospital, Israel.



### Abstract

**Background and aims:** Peripartum transmission of hepatitis B virus (HBV) from an infected mother to the child can be prevented in most but not all cases by immediate vaccination of the newborn. The aim of this study was to compare the efficacy of two licensed hepatitis B vaccines, Engerix-B versus Sci-B-Vac, in preventing peripartum HBV transmission. **Methods:** A prospective multicenter randomized controlled study in 4 delivery centers was performed from 2009 to 2014. HBsAg positive pregnant women and their newborns were recruited at the delivery rooms. All newborns received Hepatitis B Immune Globulin within 10 hours after birth, as well as HBV vaccination at 0, 1 and 6 months of age. Maternal assessment at delivery included transaminases, blood count, international normalized ratio and viral status. Infants were tested for HBsAg, anti-HBc and anti-HBs at 12 months of age. **Results:** 163/183 infant and mother pairs fulfilled the study enrollment criteria and completed follow up, 82 received Engerix-B and 81 Sci-B-Vac. Maternal parameters and viral status were similar in both groups. At 12 months of age, the Sci-B-Vac group had lower HBsAg carriage rates (1/81, 1.2%) than the Engerix-B group (5/82, 6.1%,  $p=0.05$ ) and lower vaccine failure rates with anti-HBs  $<10$  mIU/ml in the Sci-B-Vac (2/81, 2.5%) than in the Engerix-B (8/82, 9.7%,  $p=0.03$ ) group. Higher seroprotection rates were found in the Sci-B-Vac group with all anti-HBs titer stratifications of  $>10$  mIU/ml ( $p=0.03$ ),  $>100$  mIU/ml ( $p=0.02$ ) and  $>1000$  mIU/ml ( $p=0.002$ ). Sci-B-Vac effectiveness was observed at all maternal HBV DNA levels including viremia  $>10E7$  IU/L. **Conclusion:** Sci-B-Vac is superior to Engerix-B in preventing peripartum HBV transmission in neonates from HBsAg+ mothers and induces higher anti-HBs levels.



### Biography

Safadi is professor in medicine, faculty of Medicine, Hadassah University Hospital, Jerusalem & a visiting scholar at the decision of Liver Diseases, Mount Sinai School of Medicine I NY. Safadi is the current Chairman of the Israel Association for the study of the Liver. He is a member of several international Liver associations committees such as EASL, AASLD. He is the Director of Liver Unit and Clinical Research Center, Holy Family Hospital, Nazareth, Israel. He had his residency in Internal Medicine & Gastroenterology at Hadassah University Hospital, Jerusalem.

### Publications

- Multiple Roles of IL-6 in Hepatic Injury, Steatosis, and Senescence Aggregate to Suppress Tumorigenesis.
- A model based on routine liver tests can reliably exclude intrahepatic cholestasis of pregnancy.
- Efficacy of Birth Dose Vaccination in Preventing Mother-to-Child Transmission of Hepatitis B: A Randomized Controlled Trial Comparing Engerix-B and Sci-B-Vac.
- Heat shock protein 90 promotes RNA helicase DDX5 accumulation and exacerbates hepatocellular carcinoma by inhibiting autophagy.
- ChIP-seq of plasma cell-free nucleosomes identifies gene expression programs of the cells of origin.

[4<sup>th</sup> World Congress on Vaccines & Immunization](#) | London, UK | June 09, 2021

**Citation:** Rifaat Safadi, Perinatal vaccination with Sci-B-Vac is more effective than Engerix-B in Preventing Hepatitis B Virus Transmission: A Randomized Controlled Trial, Vaccines 2021, 4th World Congress on Vaccines & Immunization, London, UK, June 09, 2021.