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Cheyenne, WY 82002

Dear Ms. Alden and Ms. Gurov,

The following information is being provided in response to your specific unsolicited request about HEPLISAV-B and “HEPLISAV-B in Previous nonresponders to Hepatitis B vaccine and data available on giving these patients a challenge dose of HEPLISAV-B.”

HEPLISAV-B [Hepatitis B Vaccine (Recombinant), Adjuvanted] is indicated for prevention of infection caused by all known subtypes of hepatitis B virus. HEPLISAV-B is approved for use in adults 18 years of age and older.

Dynavax makes no recommendation on the use of HEPLISAV-B in any manner that is inconsistent with the approved labeling. Please refer to the enclosed HEPLISAV-B Package Insert for full prescribing and safety information.

HEPLISAV-B in Previous Nonresponders to Hepatitis B Vaccine

Your inquiry concerned the use of HEPLISAV-B [Hepatitis B Vaccine (Recombinant), Adjuvanted] and its use in patients who previously did not respond to a full series of a hepatitis B vaccine.

HEPLISAV-B [Hepatitis B Vaccine (Recombinant), Adjuvanted] is indicated for prevention of infection caused by all known subtypes of hepatitis B virus. HEPLISAV-B is approved for use in adults 18 years of age and older.

There are currently no adequate controlled studies of HEPLISAV-B in nonresponders or in utilizing HEPLISAV-B as a booster dose.

Halperin et al. (2013) conducted a study in 58 healthy adults 18 to 60 years of age in Canada who either did not develop seroprotection within 6 months after receiving the third injection of a standard 3-dose vaccine series of a licensed hepatitis B vaccine (primary study) or within 6 months after the last injection of 4 to 6 doses of a licensed hepatitis B vaccine (substudy). Seroprotection in the study was defined as anti-HBs concentration ≥ 10 mIU/mL.

Subjects in both the primary study and substudy were randomized in a 1:1 ratio to receive a single injection of HEPLISAV-B or Engerix-B. In the primary study, 19 subjects received HEPLISAV-B and 16 subjects received Engerix-B. In the substudy, 11 subjects received HEPLISAV-B and 12 received Engerix-B. Subjects who did not achieve a seroprotection were offered 2 additional injections with Engerix-B.

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Regarding immunogenicity, in the primary study there were no statistically significant differences in rates of seroprotection or geometric mean antibody concentrations. In the substudy, a similar proportion of subjects who received either HEPLISAV-B (63.6%) or Engerix-B (58.3%) achieved seroprotection levels ≥ 10 mIU/mL with similar rates of persistence at 26 weeks. There was a non-significant trend towards increased persistence at 52 weeks in the HEPLISAV-B group. The magnitude of immune response was significantly higher in the HEPLISAV-B group as measured by anti-HBs concentration ≥ 100 mIU/mL (54.5% vs. 8.3%, $p = 0.027$). The geometric mean antibody concentrations was higher in the HEPLISAV-B recipients at 4 weeks (264 vs. 46.5 mIU/mL, $p = 0.021$) and 52 weeks (7.0 vs. 1.2 mIU/mL, $p = 0.030$). Three of 4 subjects compared to 2 of 7 subjects who did not respond to a single dose of HEPLISAV-B or Engerix-B, respectively responded with protective antibody levels following 2 subsequent injections with Engerix-B.

Regarding safety, both vaccines were generally well tolerated. HEPLISAV-B was associated with more injection-site tenderness (63.2% vs. 18.8%, $p = 0.016$ in the primary study and 81.8% vs. 15.4%, $p = 0.003$ in the substudy).

Thank you for your interest in HEPLISAV-B. If you have additional questions please contact Medical Information at 1-844-375-4728 or e-mail at Dynavaxmedinfo@lashgroup.com.

Kindest Regards,

Angela Henderson, RN
Dynavax Technologies Corporation
Case # DYN19-000005

ENCLOSURE

HEPLISAV-B [package insert]. Berkeley, CA: Dynavax Technologies Corporation; 2018.



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References:

HEPLISAV-B [package insert]. Berkeley, CA: Dynavax Technologies Corporation; 2018.

Halperin SA, Ward BJ, Dionne M, et al. Immunogenicity of an investigational hepatitis B vaccine (hepatitis B surface antigen co-administered with an immunostimulatory phosphorothioate oligodeoxyribonucleotide) in nonresponders to licensed hepatitis B vaccine. *Human Vaccines & Immunotherapeutics*. 9:7, 1438–1444; July 2013.