Oral Session VIII: Late Breaker Presentations

155

Chimeric Yellow Fever 17D-Japanese Encephalitis (ChimeriVax™-JE) Vaccine: Preclinical effectiveness and safety testing in Rhesus Monkeys. **K. Draper**, Sierra Biomedical, Sparks, NV; **K. Solke**, Tulane Regional Primate Center, Covington, LA; **I. Levenbook**, 3228 Prestwick Lane, Northbrook, IL; **F. Guirakhoo**, OraVax, Inc., Cambridge, MA; and **T.P. Monath**, OraVax, Inc., Cambridge, MA

ChimeriVax™-JE is a live, attenuated recombinant virus prepared by excision of the prM and E genes of yellow fever 17D virus and substitution with the homologous genes from an attenuated Japanese encephalitis virus (strain JE SA14-14-2). After subcutaneous inoculation of 4 groups of rhesus monkeys with 2, 3, 4, and 5 $\log_{10}$ ChimeriVax™-JE, respectively, a low-level viremia with a mean duration of 1.8-2.3 days was established in all groups. Neutralizing antibodies (NA) appeared for all immunized groups between days 6 and 10, and by day 30, NA levels were similar across groups. All immunized monkeys were protected from intracerebral challenge with 5.2 $\log_{10}$ pfu of wild-type JE virus on day 54. None of the immunized animals developed viremia or illness, and they had only minor residual brain lesions, whereas sham-immunized animals challenged with wild-type JE virus developed viremia, clinical encephalitis, and severe histopathologic lesions. In a standardized neurovirulence test, ChimeriVax™-JE gave significantly less severe brain and spinal cord lesions than the parent yellow fever vaccine YF-Vax®, and thus, appears safer than yellow fever 17D vaccine but equally immunogenic and efficacious following challenge of immunized animals with homologous virus.