The aim of this study was to describe changes in selected indices of cell-mediated and humoral immunities in rabbits experimentally infected with two strains of the VHD virus: the Czech strain, V-351, and the French strain, Fr-2. The rabbits were intramuscularly infected with freeze-dried V-351 (group I, 20 animals), and with the Fr-2 strain (group II, 20 animals). Control groups of 10 rabbits received analogous injections of 1-ml saline. The tests were performed at 0h, just before infection, and 4-60 (every 4) hours after the infection. Analysis of the immune patterns showed that the most pronounced and most persistent alterations were observed using the French Fr-2 strain. The alterations mainly involved increased levels and pertained to LZM concentration (hours 4-56), the value of stimulated WAMG index (hours 4, -52), the NBT spectrophotometric test (hours 4-56), the stimulation index (hours 4,-48), and the capacity to adhere (hours 8,-56). In the case of this strain, decreased values of the studied parameters were noted in a few cases, but were most persistent in the case of LZM activity (hours 4-56). The Czech strain (V-351) of the VHD virus induced more short-term changes than those induced by the Fr-2 strain. The most persistent increase was noted in the LZM activities (hours 24-56), with an analogous decrease in the spontaneous WAMG (hours 8-56) and stimulated WAMG index (hours 12-56). No specific anti-VHD antibodies were detected using the ELISA tests.