

New Natural Focus of Hemorrhagic Fever with Renal Syndrome in Novska, Croatia

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Aim. Description of hemorrhagic fever with renal syndrome (HFRS) diagnosed in the members of the Croatian Army (CA) deployed at the Novska battlefield, and a seroepidemiologic study of healthy CA members stationed in the area.

Methods. Three groups of soldiers were studied: 120 soldiers from the autochthonous Novska population, with the mean deployment duration of 33 months (group 1); 96 soldiers from the near-by Ivanič-grad community, whose mean deployment at Novska was 7.5 months (group 2); and 47 soldiers who had neither lived nor been stationed at the Novska battlefield (group 3 – control). Sera were tested by indirect immunofluorescence using the Hantaan and Plitvice antigens.

Results. In groups 1 and 2, 11.7% and 15.7% of the subjects were positive for the antibodies to hantaviruses antigens, respectively, in contrast to only 2.1% in the control group ($p=0.045$). The results pointed to the presence of dormant infection of the soldiers deployed at the Novska battlefield. An overnight micromammal hunt resulted in the entrapment of 181 animals belonging to 7 species. The presence of Hantaan antigen was identified in the lungs of 12 out of 110 animals (10.9%, direct immunofluorescence). Bank vole (*Clethrionomys glareolus*) was the most viruliferous in this focus (22.0%).

Conclusion. Seroepidemiologic and mammologic-virologic studies confirmed the presence of a natural focus of HFRS in the Novska area. The infection must have been “triggered” by a close contact of the soldiers with rural environment, especially with the murid rodents inhabiting the area, and acting as Hantaan virus reservoir hosts.

Key words: animals, wild; Croatia; hemorrhagic fever with renal syndrome virus; infection; war