

Abstract #354

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NEUTRALIZATION OF HPV-11 INFECTION BY SPECIFIC POLYCLONAL ANTISERUM DIRECTED AGAINST HPV-11 VIRAL PARTICLES. William Bonne^{1*}, Robert C Rose^{1,2}, and Richard C Reichman^{1,2}. Departments of Medicine¹, and Microbiology and Immunology². University of Rochester School of Medicine and Dentistry, Rochester, NY 14642 (USA).

HPV-11 viral particles were purified by high-speed and cesium chloride gradient centrifugations from HPV-11-human foreskin tumors developed in athymic mice. Serum was collected from a single rabbit before and after immunization with the HPV-11 virions. Development of specific antibodies (Ab) was demonstrated by Western blotting. Subsequently, a single clarified lysate made from an athymic mouse HPV-11 tumor was incubated for 1 hour at 37°C, with either the pre- (control) or post-immune (treatment) HPV-11 rabbit serum. Mice were then grafted in both kidneys with human foreskin fragments which had been exposed to lysates incubated with either the control or treatment serum. 12 mice were included in the treatment group, and 12 in the control group. Tumor growth and HPV-11 transcription were assessed 6 weeks post-infection by measurements of the grafts and by detection of HPV-11 mRNA, using a Reverse Transcriptase/Polymerase Chain Reaction (RT/PCR)-based assay. The RT/PCR detects, in extracted total RNA, the presence of a spliced 735 base-mRNA derived from a 3,212 basepair region of the HPV-11 genome. The median [range] area of the implants in the control (n=20) and the treated (n=23) groups were respectively 4 [1, 12] mm², and 1 [1, 2] mm², a significant difference (p<10⁻⁴). Moreover, 19/20 and 0/23 of the grafts in the control and treated groups, respectively, contained HPV-11 mRNA. In summary, these data demonstrate the ability of a specific antiserum to neutralize HPV-11 infection, and also that the RT/PCR assay gives rapid and clear endpoints to assess the efficacy of various antiviral drugs and biologicals in the athymic mouse system.