16

Prophylactic efficacy of traditional herbal medicines against recurrent herpes simplex virus infection in mice and guinea pigs. M. Kurokawa[1], M. Nakano[1], H. Ohyama[2], T. Hozumi[2], T. Namba[1], T. Kawana[3] and K. Shiraki[1]. [1]Toyama Medical and Pharmaceutical University, Toyama, [2]Showa Shell Sekiyu K.K., Kanagawa and [3]Tokyo University Branch Hospital, Tokyo, Japan.

We have previously selected 4 herbal extracts with anti-herpes simplex virus type 1 (HSV-1) activity *in vivo* from 142 traditional herbal medicines. These were examined for their prophylactic effects on recurrent herpes simplex virus infection in mice and guinea pigs. Primarily mice were intradermally infected with HSV-1 in the pinna and recurrent HSV-1 disease was induced by ultraviolet (UV) irradiation. The prophylactic oral administration of herbal extracts arrested the progression of recurrent HSV-1 disease, reduced the incidence of severe erythema and/or vesicles in the pinna, and/or shortened the period of severe recurrent lesions compared with water-administered mice. These prophylactic treatments also limited the development of recurrent skin lesions in the pinna induced by stripping with cellophane tape. HSV-1 genome was revealed to exist in the trigeminal ganglia but not in the pinna of latently infected mice before stimuli by the nested-polymerase chain reaction assay. After stimuli, HSV-1 genome was detected in both pinna and trigeminal ganglia of latently infected mice administered with water. However, prophylactic treatments with herbal extracts decreased the frequency of detection of HSV-1 genome in the pinna. When the herbal extracts were examined for their prophylactic effects on recurrent HSV type 2 (HSV-2) disease in vaginally infected guinea pigs, they reduced the incidence and/or severity of recurrent diseases induced by UV irradiation. Prophylactic treatments also reduced the incidence and/or severity of spontaneous recurrent HSV-2 disease. This effectiveness was confirmed by the exchange experiments of herbal extracts- and water-administration to latently HSV-2-infected guinea pigs. Thus herbal extracts exhibited prophylactic efficacy against recurrent HSV-1 and HSV-2 disease in mice and guinea pigs, respectively and these prophylactic treatments may be effective in modulating the recurrent HSV infection.

17

Prolonged Presence of Viral DNA in Serum and CSF in Neonatal Herpes Simplex Virus Infections

T. MORISHIMA, Y. ANDO, H. KIMURA, M. MORITA, K. KUZUSHIMA.

Department of Pediatrics, Nagoya University School of Medicine, Nagoya, JAPAN

Neonatal herpes simplex virus (HSV) infection is a severe disease with high mortality and morbidity. For estimating whether antiviral agents are effective in curbing the spread of the virus, polymerase chain reaction (PCR) assay was applied to detect HSV DNA in 19 neonates with HSV infection including 6 disseminated cases, 8 with CNS involvement and 5 with localized skin infection (SEM). PCR assay was done as previously described (J. Infect. Dis. 1991). In all 6 disseminated cases, HSV DNA was detectable in sera before ACV treatment (30 mg/kg/day for 2 weeks) and was also positive until day 5-20 (mean, day 11) of therapy. In CNS form, HSV DNA was detected in CSF of all 8 cases before treatment and remained positive until day 1-21 (mean, day 10) of therapy. In contrast, viral DNA in sera and/or CSF of SEM form became negative within a few days after the beginning of ACV treatment. In each clinical category, prolonged presence of HSV DNA in sera or CSF resulted in delayed clinical improvement or severe sequelae. Thus, PCR assay could be useful for monitoring the response to antiviral agents in neonatal HSV infections.