

Short Communication

Herpes Simplex Virus Serotype 2 Oral Infection

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- Treatment Options
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- Epigenetic inhibitors

Abstract

Oral HSV 2 infections are spread by casual contact. HSV 2 induces coughing, so HSV 2 is spread as an aerosol, and viral laryngitis/bronchitis symptoms may indicate oral HSV 2 infection. Many physicians encounter HSV 2 oral infections but have difficulty with diagnosis. Using existing drugs, treatment options for HSV 2 oral infection could and should be improved. HSV 2 oral infections can become chronic and largely sequestered from orally administered drugs, which could be delivered more effectively.

ABBREVIATIONS

HSV: Herpes Simplex Virus

INTRODUCTION

Physicians are quite knowledgeable about HSV 2 as a genital infection [1], but have little understanding or recognition of HSV 2 oral infections, which can become chronic and are generally more severe than HSV 1 oral infections. HSV 2, as an oral infection, is spread as easily as HSV 1, which is now essentially ubiquitous. There are few restraints, therefore, on the ubiquitous, casual spread of HSV 2.

RESULTS

Over the past 5 years, a patient with a chronic HSV 2 oral infection has been to see 7 physicians: 3 general practitioners/internists; 2 dermatologists; and 2 infectious disease specialists. None of these physicians has been helpful except to prescribe large doses of acyclovir derivatives for oral application. These drugs are necessary but not sufficient for the patient's needs. Physicians have offered incorrect diagnoses and unhelpful tests to the patient. The patient has been referred to the Mayo Clinic, because physicians in the patient's state do not have a tested and acceptable protocol to treat chronic oral HSV 2. If traveling to Minnesota for medical care might be of use, could not a physician telephone there instead? The patient knows ~100 people who also show signs of oral HSV 2 infection of varying severity. The patient has observed apparent transmission of HSV 2 through sharing of coffee mugs and dishes. The patient has seen ~1000 apparent cases of oral HSV 2 infection at and around two universities. Some television celebrities have shown evidence of oral HSV 2 infection. From inspection of the news, some crimes (including murders) appear to have involved casual transfers of oral HSV 2.

COMMENTARY

There is an unacknowledged increase in HSV 2 oral infections

in America, and the medical professions avoid knowledge and evidence of an epidemic, which you can readily see in your city or from time to time on your television set. Public Safety, the Surgeon General and Homeland Security have been made aware of this information about HSV 2. Truly, this is an epidemic with significant human consequences hiding in plain sight, and the spread of disease remains cryptic because of social restraints, because knowledge of the epidemic is suppressed, because the virus can be maintained in a latent state and because cosmetic drugs (acyclovir derivatives) are prescribed to hide symptoms. HSV 2 is transmitted through casual contact, i.e. mouth to mouth or mouth to surface (i.e. dishes or coffee mugs) to mouth. HSV 2 is highly contagious and is transmitted with close to the ease of a cold virus, but, unlike a cold virus, HSV 2 is not cured once contracted. HSV 2 oral infections of the chin, tongue, face and neck can worsen with time and become chronic. The medical professions are not knowledgeable about HSV 2 oral infections and are generally not competent to diagnose oral HSV 2 symptoms. Although HSV 2 may become a latent infection, physicians wrongly consider weeping cold sores to be the sole manifestation of HSV 2. To maintain this error, physicians ignore flu-like symptoms, chronic antibiotic-resistant acne (cold sores), chronic viral bronchitis and coughing caused by HSV 2. Because HSV 2 induces coughing, HSV 2 is spread as an aerosol. Because treatment options are limited and because infections can be latent, physicians may misdiagnose HSV 2 oral infection.

Using existing drugs (i.e. 250-1000 mg/day acyclovir/ganciclovir/valaciclovir derivatives taken orally) [1], HSV 2 treatment could be improved in the following ways: 1) acyclovir/ganciclovir/valaciclovir derivatives could be injected into the chin (for safety, doses must be titrated, but acyclovir is generally of low toxicity); 2) monoamine oxidase inhibitors (for treating depression) could be developed for administration to the skin (monoamine oxidase inhibitors and other epigenetic inhibitors maintain HSV 2 in its latent state suppressing symptoms)[2-6];

3) acyclovir derivatives could be used in greater amounts as ointments for the skin (5 g 5 % ointment is insufficient and not effective; larger doses are more effective and generally safe); 4) fluorouracil (a replication inhibitor; 40 g 5 % ointment) is more effective than acyclovir cream for treating HSV 2 cold sores; 5) acyclovir mouthwash could be made available; and 6) acyclovir pills could be flavored, so acyclovir could be sucked rather than swallowed to deliver medicine more effectively to the mouth. Orally administered acyclovir may suppress visible symptoms of HSV 2 infection without effectively limiting transmission of the disease.

Some physicians do not appear to understand that HSV 1 and HSV 2 are largely unrelated viruses (i.e. from National Center for Biotechnology Information Blast: 81% nucleotide identity over 64% of genomes; 87% nucleotide identity over only 5.3% of genomes; comparing X14112.1 (HSV 1) and Z86099.2 (HSV 2)). Because HSV 1 and HSV 2 are somewhat distantly related and because they are herpes viruses, a patient can be infected with both HSV 1 and HSV 2. Although HSV 2 is potentially lethal to infants who have incompletely formed immune systems and also to immune-compromised adults, physicians are generally not aware that oral HSV 2 infections can become chronic in people with intact immune systems. When physicians learn this, they may revert to misinformation on HSV 2 spread in medical school or to poorly designed medical protocols rather than to provide adequate care. Physicians do not appear to know that viruses mutate and change causing emergence of virulent strains, as may be the case with HSV 2, so treatments that may have seemed effective in the past may not continue to be adequate. Looking for cold sores as the only possible indication of HSV 2 infection, physicians may avoid adequate diagnostics, but modern tools such as biopsy, polymerase chain reaction, antibody detection and microscopy provide more informative evaluation. Furthermore, because HSV 2 can be maintained as a latent infection, disappearance of overt HSV 2 symptoms does not imply a cure. Simply stated, physicians appear naive and unknowledgeable when confronted by oral HSV 2 infections.

If you think you do not have skin in this game, you are mistaken. Because of the means of transmission, every human on earth will soon be exposed to HSV 2 as an oral infection. If

you think of HSV 2 as only a dirty joke, you are also mistaken. HSV 2 is more easily transmitted by casual contact. If you think there is a social solution to HSV 2 infection, you are mistaken. This is a medical problem that requires medical interventions. The medical professions have been reluctant to address a HSV 2 epidemic raging in plain sight. Rather than address a crisis, the medical professions have chosen to push the HSV 2 epidemic out of view. Physicians also obscure the issue by treating HSV 2 with drugs that hide symptoms but fail to cure or to effectively suppress the spread of infection. Despite misguided efforts, however, the HSV 2 medical emergency will not remain hidden.

CONCLUSIONS

With modern methods of diagnosis, it is trivial to confirm the information written here. Confirmation could also readily be achieved using surveys. Many people are seriously ill with HSV 2 and would appreciate adequate diagnosis and improved medical advice and care. Many approved medicines could be used more effectively to treat HSV 2 oral infections.

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