

82235\_Auto\_Edited.docx

**Name of Journal:** *World Journal of Clinical Cases*

**Manuscript NO:** 82235

**Manuscript Type:** CASE REPORT

## **Treatment of large area virus herpes around lips after the ventilator**

Jia-Ying Xu, Rong wang, Yi-Min Li

### **Abstract**

#### **BACKGROUND**

*Human alphaherpesvirus* belongs to the *Herpesviridae* family, with a relatively large monopartite double-stranded linear DNA. It mainly infects the skin, mucosa, and nerve tissue and has many reservoirs of infection, including humans and other animals. The digestive system department of our hospital received a patient whose lips and mouth was infected with viral herpes after the treatment of a ventilator<sup>[1]</sup>. The patients were treated with antiviral drugs, uracil, and thrombin powder externally. The antiviral drugs were taken orally<sup>[2,3]</sup>. The wet wound healing was applied in drug changing the patient's wounds, and the effect was good. Following is the report.

#### **CASE SUMMARY**

The patient is female, 73 years old. She suffered from "abdominal pain for three days, aggravating with dizziness for two days." She was accepted by ICU for septic shock and spontaneous peritonitis secondary to liver cirrhosis and was given anti-inflammatory and symptomatic supportive treatment. A ventilator was used to assist breathing for ARDS occurring during the period. A large area of viral herpes appeared around the lip and mouth two days later. The patient was transferred to the digestive system department with a body temperature of 37.8°C and a respiratory rate was 18 times/minute. The patient's consciousness was clear, with no abdominal pain and abdominal distension, no chest tightness, and asthma. The large area of herpes changes

appearance and is accompanied by encrusted blood and local bleeding, which is about 10\*10cm. Cluster blisters appeared on the right neck and ulcers in the mouth with local pain of degree 2 in the NRS score. The diagnosis included: ①septic shock; ②spontaneous peritonitis; ③abdominal infection; ④decompensated stage of cirrhosis; ⑤hypoproteinemia. In the treatment process, the dermatology department was asked to consult the treatment of patients' wounds. It is suggested to take oral antiviral drugs, intramuscular injection of nutritious nerve drugs, and apply the penciclovir cream and mupirocin around the lips. After that, the stomatology department consulted and suggested using nitrocin local wet application around the lips.

## CONCLUSION

Through multi-disciplinary consultation, through the application of anti-virus and moist wound healing theory, keeping the wound moist, conducted effective management of wound infection control and exudation, combined with systemic use of antibiotics and symptomatic nutritional support treatment. And good results have been achieved. The patient was discharged from the hospital, and the wound was healed.

## INTRODUCTION

*Human alphaherpesvirus* belongs to the *Herpesviridae* family, with a relatively large monopartite double-stranded linear DNA. It mainly infects the skin, mucosa, and nerve tissue and has many reservoirs of infection, including humans and other animals. The digestive system department of our hospital received a patient whose lips and mouth was infected with viral herpes after the treatment of a ventilator<sup>[1]</sup>. The patients were treated with antiviral drugs, uracil, and thrombin powder externally. The antiviral drugs were taken orally<sup>[2,3]</sup>. The wet wound healing was applied in drug changing the patient's wounds, and the effect was good. Following is the report.

## CASE PRESENTATION

### *Chief complaints*

After using the ventilator in ICU, the patient developed a large area of viral herpes around the lip and mouth.

*History of present illness*

**large area virus herpes around lips after the ventilator**

*History of past illness*

①septic shock; ②spontaneous peritonitis; ③abdominal infection; ④decompensated stage of cirrhosis; ⑤hypoproteinemia.

*Personal and family history*

None

*Physical examination*

The patient's consciousness was clear, with no abdominal pain and abdominal distension, no chest tightness, and asthma. The large area of herpes changes appearance and is accompanied by encrusted blood and local bleeding, which is about 10\*10cm.

*Laboratory examinations*

Prothrombin time 15.9sec, partial thromboplastin time 34.5 sec, albumin 27.9g/L, alanine aminotransferase 56U/L, total bilirubin 129.4μmol/L, neutrophil 79.2%, hemoglobin 87g/L, platelet 48\*10<sup>9</sup> / L, high sensitivity C-reactive protein 77mg/L.

*Imaging examinations*

Left picture: virus herpes around lips before medical treatment; Right picture: virus has already been treated and recovered.

**MULTIDISCIPLINARY EXPERT CONSULTATION**

In the treatment process, the dermatology department was asked to consult the treatment of patients' wounds. It is suggested to take oral antiviral drugs, intramuscular

injection of nutritious nerve drugs, and apply the penciclovir cream and mupirocin around the lips. After that, the stomatology department consulted and suggested using nitrocin local wet application around the lips.

### **FINAL DIAGNOSIS**

**virus herpes around lips after the ventilator**

### **TREATMENT**

The patient achieved good recovery after consultation, resisting viral infection, increasing nutrition, external application of drugs, an anti-inflammatory effect from uracil, and local treatment of adrenaline needle and thrombin lyophilized powder local hemostasis, as well as wet wound healing theory and local dressing.

### **OUTCOME AND FOLLOW-UP**

Through multi-disciplinary consultation, through the application of anti-virus and moist wound healing theory, keeping the wound moist, conducted effective management of wound infection control and exudation, combined with systemic use of antibiotics and symptomatic nutritional support treatment. And good results have been achieved. The patient was discharged from the hospital, and the wound was healed.

### **DISCUSSION**

Herpes simplex virus (HSV) can be latent in the sensory ganglia of the host and reactivate periodically, resulting in infection recurrence. It is characterized by blisters in the epidermis, epidermal necrosis, multinucleated epithelial giant cells, eosinophilic intranuclear inclusions, and significant inflammatory infiltration of neutrophils and lymphocytes<sup>[4]</sup>. Immunity can be immediately stimulated once HSV is infected, and the lesions are limited to the skin surface and mucous membrane. When HSV infection occurs in newborns with immature immune function and people with immune deficiency (such as organ transplantation, patients receiving immunosuppressant and

anti-tumor treatment), herpes often spreads to the whole body, including brain, liver, lung, eye, adrenal gland, skin and mucous membrane, *etc.* this is serious and has a high death rate<sup>[5-7]</sup>. When the skin has extensive damage, such as eczema and burns, HSV infection often manifests as generalized herpes of skin and mucous membrane and can cause systemic disseminated lesions. The patients in this study had a large area of perioral herpes, up to 10cm\*10cm, accompanied by bleeding, resulting in difficulty in opening the mouth, pain, and changes in self-image. Therefore, the patients were identified as having viral herpes after consultation, through resisting viral infection, increasing nutrition, external application of drugs, the anti-inflammatory effect from furacilin, and local treatment of adrenaline needle + thrombin lyophilized powder local hemostasis, as well as wet wound healing theory and local dressing, achieved good results.

Penciclovir cream is a nucleoside antiviral drug inhibiting herpes simplex virus type I and II *in vitro*. Mupirocin is suitable for skin infections caused by gram-positive cocci, such as primary skin infections, pustulosis, furuncle, folliculitis, and eczema combined infection<sup>[8,9]</sup>. Furacilin can interfere with the glucose metabolism and the oxidase system of bacteria and play the role of bacteriostasis or sterilization<sup>[10]</sup>. It mainly interferes with the early stage of glucose metabolism of bacteria, resulting in the disorder of bacterial metabolism and death. It has a broad spectrum of antibacterial activities against various gram-positive and harmful bacteria, anaerobic bacteria, and weak to *Pseudomonas aeruginosa* and pneumococcus<sup>[11,12]</sup>. It is resistant to *Pseudomonas* and *Proteus* and ineffective against fungi and molds, but it is still effective against bacterial infections caused by molds<sup>[13]</sup>. Norepinephrine needle can cause small artery and slight vein vasoconstriction, especially on skin and mucosa; thrombin lyophilized powder is used for hemostasis of small blood vessels, gastrointestinal bleeding, and traumatic bleeding that are not easy to ligate in operation; epinephrine and thrombin lyophilized powder can function well in local hemostasis; according to the wet healing theory, it is more likely to reduce the cost (GPS) from using an advanced wound dressing on promoting wet wound healing because of its high

efficiency on faster healing time and lower frequency of replacement, so we choose nitrofurazone dressing for a regular dressing change. The dressing change is gentle to prevent injury to the patient's new skin. In addition, according to the psychology of patients and their families, we gradually communicate with them, making patients and their families more willing to cooperate closely with medical staff for further improvement and promoting the rehabilitation of patients.

### **CONCLUSION**

Thank you very much for taking the time to review our manuscript. The clinical significance of this study is that it shares experience in the pharmacological treatment plan. Care of patients who developed herpes virus infection after applying a noninvasive ventilator. There are few domestic and foreign reports on the treatment plan and care related to herpes virus infection after applying a noninvasive ventilator. In this case, the patient's wound healed after applying antiviral drugs, furacilin and thrombin powder topically, antiviral drugs orally, and a wet wound healing concept for a wound dressing change. In this case, no adverse reactions or toxic side effects were found. Therefore, in patients ventilated by a noninvasive ventilator, nursing staff should intervene early when they find abnormal and unusual pain and herpes on the skin of the patient's mouth and lips or other areas. The treatment and care in this study provide good treatment ideas to effectively accelerate the wound healing process and improve the cure rate of herpes infection. Therefore, for patients who developed herpes virus infection after the application of a noninvasive ventilator, the authors believe that the above-mentioned combined medication method and nursing care measures are worth adopting and applying and are worth studying.

ORIGINALITY REPORT

4%

SIMILARITY INDEX

PRIMARY SOURCES

1	www.netinbag.com	61 words — 4%
	Internet	

EXCLUDE QUOTES ON  
EXCLUDE BIBLIOGRAPHY ON

EXCLUDE SOURCES OFF  
EXCLUDE MATCHES < 12 WORDS