

Necrotic Erysipelas of Human Upper Limb-Case Report

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1. Abstract

A case of human upper limb necrotizing erysipelas is present. The patient had a history of insect bite on the upper limb before local redness, blister, rupture, blackness, necrosis. The patient was treated with local wound expansion and drainage until the condition was stable. The patient was treated with Chinese medicine to remove pus and rot before operation, and the patient was treated with Chinese medicine to irrigate the wound and give birth to muscle and flesh after operation.

Erysipelas is an acute infectious disease that causes the skin to suddenly become red and pale. "General Treatise on Causes and Manifestations of All Diseases · Dan (Red)" says: Dan (Red) - People's body is suddenly turning red, which is like being painted by red color. So, it is called Dan (Red). The clinical characteristics of erysipelas are sudden onset of disease, severe cold and fever, and the local skin suddenly becomes red. The color is like dandelion smear, swollen fever, clear borders, and rapid expansion. It can gradually heal within a few days, and every relapse. The onset of the disease is indeterminate, with different disease names depending on the location of the disease. Those happened in the trunk are called endemic erysipelas; Head and face, called seasonal infectious diseases; On the calf feet, called erysipelas on the leg. Newborns are born on the hips more often, called wandering erysipelas. A case of upper limb necrotizing erysipelas was diagnosed and treated in our department in September 2019. The report is as follows

2. Case Report

A male Patient, 84 years old, hospital number: 0651029. He was admitted to the hospital because of "the right upper limb redness,

swelling and pain accompanied by black necrosis for more than 10 days" on September 10, 2019. The patient complained that the thumb of his right hand was accidentally bitten by an unknown species of poisonous insect more than 10 days ago. After self-administration of menthocomphorate, the range and extent of redness increased, gradually spreading to the back of the hand, forearm, and upper arm, with paroxysmal pain, and a large number of dense blisters, rupture with exudation, He went to a number of western medical hospitals and was diagnosed as "Erysipelas". External hospital examination (2019-09-06) BUS superficial mass of right upper limb: Honeycomb effusion was seen from the back of the ulnar side of the right forearm to the elbow subcutaneously, and the soft tissue of the remaining right forearm showed edema and thickening. Right hand AP and bolique view: No abnormal bone. Cefazolin, meropenem, and vancomycin were used to treat the infection, and Compound Polymyxin B and Ethacridine Lactate were applied externally. The patient was recommended to amputate. The family of the patient refused, and then went to the specialist outpatient clinic of Professor HuaFua Que of our hospital for traditional Chinese medicine surgery, so they were admitted to the ward for further diagnosis and treatment. Physical examination (Figure 1): The right upper limb is dark and swollen, the skin temperature is high, and the swelling ranges from the elbow joint to the back of the hand and fingers, scattered loose blister skin. The size range on the back of the forearm is about 20cm * 8cm blackening and necrosis. Fluctuation (+). The back of the right hand is dark, part of the skin is necrotic, fluctuation (+), crackles (-) tenderness (+). Admission check (2019-09-10) blood routine examination: white blood cells $11.86 \times 10^9 / L$, neutrophil percentage 79.4%, Hemoglobin 133g / L, platelets $252 \times 10^9 / L$,

high-sensitivity C-reactive protein 22.58 MG / L. There were no specific changes in ESR, liver and kidney function, and allergens. (2019-09-12) *Pseudomonas maltophilia* reported from external hospital pus culture.



Figure 1: left, Sept.9, 2019, Specialist Clinic



Figure 2: Jin Huang Plaster

Debridement under local anesthesia on the afternoon of September 10, 2019, a large amount of dark red necrotic tissue and floating granulation were seen in the black necrosis area, the diseased tissue has gradually separated from its underlying normal tissue, like a layer of crust, continue to cut the blister on the back of the hand, seeing a large area of sores, base yellow (Figure 3).

After the right upper extremity sore surface was washed with Nitrofurantoin to dilute toxins, use petrolatum gauze with Hong Yun Plaster (Figure 4) removing inflammation and promoting tissue generation, external application Jin Huang Plaster (Figure 2) compound of Glauber-salt and licorice of clearing away heat and toxic material, reduce swelling and ease pain, with oral Chinese medicine, patient thirsty, obvious swelling, with higher skin tem-

perature, red tongue with yellow slimy fur, deep and taut pulse, belong dampness-heat toxin excessiveness, treatment of cold fever, detoxification and dampness, using the dried rhizome of *Rehmannia* 15g, Red paeony root 15g, Red sage 15g, Buffalo horn 15g, Japanese honeysuckle 15g, Dandelion 30g, *Caulis Lonicerae* 30g, Honeycomb 6g, Coix seed 15g, Mulberry Twig 15g, *Radices platycodi* 9g, Japan Bogorchid 15g, Oriental waterplantain rhizome 30g, Beautiful Sweetgum Fruit 15g, Corn Stigma 15g, *Thlaspi Herba* 15g, Chinese Honeylocust Spine 12g, *Radix astragali* 30g, *Bombyx batrytucatus* 6g, Prepared Common Monkshood Daughter Root 6g, Deadrobe 15g, *Radix Scrophulariae* 15g, Licorice Roots Northwest Origin 9g, (above-mentioned and after, all chinese medicine are from Shanghai wanshicheng Pharmaceutical Co., Ltd), decoction orally. After 1 week of treatment, the patient's dry mouth condition improved, swelling of the affected limb subsided, and skin temperature decreased. Texture of tongue turns dark red, adjust medication to minus buffalo horn, honeycomb, deadrobe, radix scrophulariae, etc. Add largehead *atractylodes* rhizome 9g, Indian buead 9g, *Suberect spatholobus* stem 30g. He was discharged 2 weeks after surgery, and the sore surface was cured 4 weeks after surgery (Figure 5).



Figure 3: Sept.10, 2019, during debridement



Figure 4: Hong You Plaster



Figure 5: Oct.10, 2019, subsequent

3. Discussion

Erysipelas is an acute infection of reticular lymphatics and surrounding soft tissues caused by the invasion of hemolytic streptococci into the skin. The main pathogenic bacteria are group A beta hemolytic streptococci, which is a common and frequently occurring disease in traditional Chinese medicine surgery. Clinically, it can be divided into erythema erysipelas, vesicular erysipelas, purpuric erysipelas and necrotic erysipelas. Among them, necrotic erysipelas is particularly rare, and the relevant literature and case reports only stay in single digits. Western medicine routinely uses antibiotics for 10-14 days, external treatment with magnesium sulfate wet compress, and physical therapy, but the recurrence rate is high. Repeated episodes in severe cases can cause chronic lymphedema and eventually develop into elephantiasis. The knowledge of the motherland medicine about this disease has been included in the "Inner Canon of the Yellow Emperor", and the medical doctors of later generations have continued to develop, and the treatment of this disease can achieve good results. Professor Huafa Que, a professor of traditional Chinese medicine surgery at Longhua Hospital affiliated to Shanghai University of Traditional Chinese Medicine, inherits Gu's famous surgeons, Professor Lu Deming, and Tang Hanjun, who have unique insights into the diagnosis and treatment of erysipelas and have significant clinical effects [1].

We have erysipelas in the limbs. Professor Huafa Que's experience in treating erysipelas in clinical practice uses the "three-discipline model, the trinity", that is, identifying the disease, identifying the syndrome, and discerning the body. The application of promoting blood circulation to remove meridian obstruction is always applied, and local and the syndrome differentiation of the whole body is divided into three types of damp-heat poisoning, damp-heat stasis, and damp-evil obstruction, which are treated as cold

serum heat and detoxification and dampness, clearing heat and dampness and removing stasis and collaterals, and benefiting qi and activating blood. Spleen and dampness swelling, medication with the addition and subtraction of symptoms. The erythema erysipelas is obvious, which is heavy for the heat toxin of the blood, plus *Scutellaria barbata*, *Corydalis bungeana*, and *Dandelion*; the vesicular erysipelas is obvious, which is heavy for the dampness, plus *Smilax glabra*, *Bixie*, *Psyllium*, and *Alisma*; the purpuric erysipelas is obvious, which is heavy for blood heat and static, *Buffalo horns*, *Lithospermum* and *Cogongrass rhizome* are added. Local tissue erosion and destruction is obvious, which is for flesh damage caused by heat toxin, and *Scutellaria barbata*, *Corydalis bungeana*, and *Dandelion* are added. Emphasis on discerning the body is reflected in the fact that those with obvious yang deficiency often add *Astragalus*, *Aconite*, *Cinnamon stick*, *Cinnamon*, etc., and those with obvious yin deficiency often add *Rehmannia*, *Ophiopogon japonicus*, *Xuanshen*, *Dendrobium*, *Coastal glehnia root*, etc., and those with obvious qi deficiency often add *Astragalus*, *Atractylodes*, *Poria*, etc., those with obvious blood stasis often add *Angelica sinensis*, *Chuanxiong*, *Salvia miltiorrhiza*, *Sanling*, *Curcuma*, *Peach kernel*, *Safflower*. At the same time, it advocates the early application of cooling heat and blood circulation drugs, such as red peony, *Salvia miltiorrhiza*, honeysuckle, *Polygonum cuspidatum*, rhubarb and so on. In the later period, it is necessary to take medicines for blood-activating and qi-moving, as well as the water-draining and swelling-dispersing [2].

To "Erysipelas" as the keyword search in CNKI and nearly 5 years of Chinese literatures, found that more than 80% of the relevant literature to combine traditional Chinese and western medicine treatment of the disease, and combine traditional Chinese and western medicine in the treatment of erysipelas effect is superior to western medicine treatment, including a variety of internal and external use Chinese medicine, but the basis of western medicine in treatment medication is still mostly penicillin intravenous drip, Very few use cephalosporins or quinolones. In PubMed, "Erysipelas" was used as the subject word to search and refer to the foreign literature of the last 5 years. Penicillin intravenous drip was the first choice in most of the treatment regimens, and few literatures involved Chinese herbal medicine [3]. Zhu Zhengwei [4] found in his study that the treatment of erysipelas by integrated traditional Chinese and western medicine has a definite curative effect and a variety of treatment methods, which has unique advantages in improving clinical symptoms and controlling the development of the disease. The effective rate, cure rate of 10d, cure rate of 10 ~ 14d, cure rate of 14d and cure time were analyzed. The results showed that the effective rate and cure rate of TCM and western medicine in treating erysipelas were significantly higher than that of single western medicine. Cure time and recurrence rate were also significantly lower than Western medicine alone. It shows that the combination of traditional Chinese and western medicine has definite curative

effect on erysipelas and has unique advantages. The patient was also treated with combination of traditional Chinese and western medicine, including internal and external administration of traditional Chinese medicine, and achieved good curative effect. Lu Shanshan [5] studied 100 patients with erysipelas and found that raw rehmannia glutinosa, buffalo horn powder, peony bark and red peony root taste bitter and cold, clear heat and detoxify, promote blood circulation and dissipate blood stasis, cool blood and relieve pain, and have anti-inflammatory and inhibitory effects on microbial reproduction. Honeysuckle, wild chrysanthemum and purple flower diditins have cold properties, which can clear away heat and poison, dissipate blood stasis and dissipate swelling and tangles. Studies have shown that some traditional Chinese medicines with the effect of removing heat and detoxification have anti-inflammatory, antitoxin, antipyretic, inhibition of bacterial reproduction, enhancement of immune function [8,9], inhibition of both *Staphylococcus aureus* and *Hemolytic Streptococcus* [1], and improvement of local vascular permeability [7]. Coix seed is moistening and tonifying, invigorating the spleen, moistening the spleen, reducing swelling, eliminating arthralgia, clearing heat and relieving pain; *Alisma alisma* has a strong effect of moistening and reducing swelling, releasing heat and inhibiting *Staphylococcus aureus* [6]. Honeysuckle vine clears heat and relieves pain, dredges collateral and promotes blood circulation. *Salvia miltiorrhiza* promotes blood circulation to remove blood stasis, cool blood to relieve pain, eliminate carbuncle, calm nerves; *Caulis spatholobi* is a common drug for clinical treatment of obstruction of meridians and collaterals. In addition, modern pharmacological research shows that blood-activating drugs can improve blood rheology of the body and reduce the degree of local tissue edema. The external oil can clear away heat and detoxify, promote blood circulation and remove blood stasis, reduce swelling, disperse nodes and relieve pain, and at the same time improve the permeability of drugs and increase the body's absorption of the effective ingredients of drugs [10]. The patient had a history of poisonous insect bite in the upper limb before the onset of the disease, and then the affected limb quickly developed redness, swelling, blisters, ulceration, blackening, and necrosis. Combined with laboratory tests to increase the inflammatory factors, B-ultrasound showed subcutaneous honeycomb effusion with soft tissue edema. Thickening performance, comprehensive case analysis, and diagnosis are not too difficult, but necrotizing erysipelas is rare in clinical practice and the disease develops rapidly. The key lies in how to quickly control the disease during hospitalization and improve the patient's sore surface. The patient's upper limbs were hot and red, the tongue was red, mouth was dry and prefer cold drink. It indicated that the body blood was hot, poisonous insects bitten the affected limb's blood and attacked the skin, local infection, meridian barrier, qi and blood stagnation, and heat poisoning in the skin, heat is accumulated for a long time, when the hot wins, the meat rots and ulcers,

and when the local blisters and ulceration occur, the wetness and turbidity are indicated, which are all manifestations of "damp heat and poison poisoning". The rule is to cool the serum, detoxify and dampen dampness, and to add and subtract the "Cornus rhinoceri and rehmanniae decoction" and the "antiphlogistic decoction of five drugs", and use raw land, red scallion, salvia, buffalo horn, honeysuckle, dandelion, etc. to cool and detoxify the blood and to activate blood circulation, And pay attention to the application of Japan Bogorhid, Oriental waterplantain rhizome etc. and camp blood circulation, while simultaneously using honeycomb insects to search for drugs, Beautiful Sweetgum Fruit, honeysuckle rattan, the collateral drugs pass through the collaterals to promote blood circulation, and the three methods are matched, which promotes the solution of blood and heat toxins and the collaterals and qi and blood. The patient's condition changed to safety within 1 week, the condition improved after 2 weeks and was discharged from the hospital. The condition was cured in 4 weeks, free from amputation, and healed in a short time.

To sum up, the comprehensive treatment of internal and external Chinese medicine has significant effects on patients with erysipelas. Although clinically, erysipelas can be cured, but it is easy to relapse. Patients should be advised to avoid trauma as much as possible. If skin is damaged, they should be treated in time, pay attention to rest and diet to reduce recurrence.

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