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RESEARCH ARTICLE

ERYSIPELAS

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ABSTRACT

Erysipelas is a skin infection. It is a form of cellulitis, but unlike cellulitis, which affects deeper tissue, erysipelas only affects the upper layers of the skin. However, the two conditions can overlap, which can make it hard for a doctor to tell the two conditions apart. Previously, doctors thought that erysipelas only affected the face, but the National Organization for Rare Disorders now estimate that around 80 percent of all cases occur on the legs. It can also appear on the arms and torso. Erysipelas is usually caused by the Group A Streptococcus bacterium, the same bacterium that causes strep throat. The infection results in large, raised red patches on the skin. This is sometimes accompanied by other symptoms, including blisters, fevers, and chills. Erysipelas most frequently occurs on the face and legs. Erysipelas often improves with treatment. The infection can usually be treated effectively with antibiotics.

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INTRODUCTION

Erysipelas is a bacterial infection in the upper layer of the skin. It is similar to another skin disorder known as cellulitis, which is an infection in the lower layers of the skin. Both conditions are similar in appearance and are treated in the same way. Mrs.X was apparently normal one month ago then she started develop swelling of right lower limb with red coloured lesions associated with pain and progressive in nature, history of discharge from lesions is present ,may not able to walk. Mrs.X was admitted in the hospital in DVL ward with the complaints and the physician diagnosed it as erysipelas after the examined the patient. She undergone the antibiotic therapy and appropriate care was given.

Definition

Erysipelas is a bacterial skin infection involving the upper dermis that characteristically extends into the superficial cutaneous lymphatic. It is a tender, intensely erythematous, indurated plaque with a sharply demarcated border. Its well-defined margin can help differentiate it from other skin infections.¹

Epidemiology

Erysipelas has been traced back to the middle Ages, where it was referred to as St. Anthony's fire, named after the Christian saint to whom those afflicted would appeal for healing. Around 1095, the Order of St. Anthony, a Roman Catholic congregation, was formed in France to care for those with the ailment. At the time, several diseases were likely grouped

under this eponym, including ergotism and herpes zoster (shingles).¹

Historically, erysipelas occurred on the face, but cases today most often involve the legs. The group A streptococcal bacterium *Streptococcus pyogenes* causes most of the facial infections; although it can also cause erysipelas on the legs, an increasing percentage of lower extremity infections are now being caused by non-group A streptococci.

Isolated cases are the rule with erysipelas, although epidemics have been reported. The incidence of erysipelas declined throughout the mid-20th century, possibly due to antibiotic development, improved sanitation, and decreased virulence.² However, an increasing incidence of the condition has been noted since the late 1980s.

The change in distribution from the face to the lower extremities is most likely related to an aging population with risk factors such as lymphedema. Approximately 80% of cases of erysipelas occur on the legs rather than the face.

Erysipelas is somewhat more common in European countries. Isolated cases are still the rule, however, and the distribution and etiology remain similar to those in the United States.

Incidence

Erysipelas infections affect persons of all races. The condition has been reported to be more common in females but to occur at an earlier age in males (likely because of a greater incidence of skin injuries in younger males).³ Other studies indicate that

predisposing factors, rather than gender, account for any male/female differences in incidence.

Cases of erysipelas have been reported in all age groups, but it does appear that infants, young children, and elderly patients are most commonly affected. The peak incidence has been reported to be in patients aged 60-80 years, especially in those who are considered to be high-risk and Immunocompromise or those with lymphatic drainage problems (e.g., after mastectomy, pelvic surgery, bypass grafting).

Risk Factors

Young children (especially 2 to 6 years old) and adults over age 60 are more likely to develop erysipelas. Older adults who have weak immune systems or who have problems with fluid buildup after surgery are at the highest risk. Predisposing factors in erysipelas include the following:

- Lymphatic obstruction or edema
- Saphenous vein grafting in lower extremities
- Status post radical mastectomy
- Immunocompromise: Including patients who are diabetic or alcoholic^[5] or who have human immunodeficiency virus (HIV)
- Arteriovenous insufficiency
- Paretic limbs
- Nephrotic syndrome
- Vagrant lifestyle

Preexisting lymphedema is a clear-cut risk factor for erysipelas. Recurrent erysipelas complicating the lymphedema from breast cancer treatment is well documented.^{4,5} Lymphoscintigraphy in patients with a first-time episode of lower extremity erysipelas has documented lymphatic impairment in affected and non-affected legs. Thus, subclinical lymphatic dysfunction is also a risk factor for erysipelas.

Etiology

Streptococci are the primary cause of erysipelas. Most facial infections are attributed to group A streptococci, while an increasing percentage of lower extremity infections are caused by non-group A streptococci. Erysipelas in newborns is often caused by group B streptococci, which may also be responsible for perineal and lower-trunk erysipelas occurring in postpartum women. Erysipelas occurs when Group A Streptococcus bacteria penetrate the outer barrier of your skin. These bacteria normally live on your skin and other surfaces without causing any harm. However, they can enter your skin through a cut or a sore and cause an infection. Conditions that cause breaks in the skin, such as athlete's foot and eczema, can sometimes lead to erysipelas. Erysipelas may also occur when the bacteria spread to nasal passages following an infection in the nose and throat.¹

Erysipelas develops when bacteria enter the skin through cuts or sores. Skin injuries that increase the chances of developing erysipelas include:⁶

- Cuts to the skin, ulcers, or bed sores
- Insect or animal bites
- Wounds from surgery

Pre-existing skin conditions that break the surface of the skin also increase the chances of getting erysipelas.

These conditions include:

- eczema
- impetigo
- fungal infections, such as athlete's foot
- Other conditions can also increase the likelihood of a person getting erysipelas. These do not always affect the skin directly, and include:
 - veins and lymphatic vessels not working as they should
 - obesity
 - alcoholism
 - poorly controlled diabetes
 - circulation problems
 - weakened immune system

Some medications can weaken the immune system and lead to erysipelas. These medications include some cancer drugs and medication commonly used after organ transplants.

Anyone can get erysipelas, but it most commonly affects infants and adults over the age of 60.

Erysipelas is not hereditary or contagious.

Signs and Symptoms⁶

Visible signs of erysipelas appear on the skin. Symptoms can include fevers, chills, shivering, and high temperature.

Book picture	Patient picture
The skin is then usually affected in a particular area and can appear in one of the following ways: <ul style="list-style-type: none"> • swollen and shiny • redness • warm and tender to the touch • blisters in severe cases • sharp edges between the affected area and unaffected skin • red streaks above the affected area • can turn purple or black in severe cases 	The patient Mrs.X had affected erysipelas in the right lower limb. She had the following manifestations: <ul style="list-style-type: none"> • Swollen and shininess of skin present • Warmness and tenderness present • Three blisters present • Sharp edges seen between the affected and unaffected skin • Skin can turn black

These signs and symptoms are often quite abrupt and can develop in just a few hours or days.

When erysipelas affects the face, the swollen area usually includes the nose and both cheeks.

Diagnosis

A blood test can reveal raised levels of white blood cells, which can indicate damage caused by an infection. In general, a doctor will be able to diagnose erysipelas by the appearance and symptoms of the affected area. This is because the symptoms of erysipelas tend to occur only with this particular condition. The person's medical history, highlighting previous injuries or surgery, will often suggest the possible cause as well.

Further testing is not usually needed.

Doctors may carry out a blood test if there are any signs of systemic infection, such as bacteria in the blood (bacteremia). However, the identification of bacteria is not always possible, even in a laboratory.

Tests can also help to reveal:

- Raised levels of white blood cells, which can be caused by tissue damage and bacterial infection

- Elevated levels of c-reactive protein, which is produced by the liver in increased amounts when inflammation occurs
- Positive blood culture indicating a bacterial infection
- The presence of a specific infection, caused by an animal bite, for example

In some cases of deep infection, a magnetic resonance imaging (MRI) or computed tomography (CT) scan is necessary.

Treatment

Most people with erysipelas can be treated at home, but some may require treatment in a hospital. Depending on the severity of your condition, your treatment plan can include home remedies, medication, or surgery. Erysipelas is curable. It is important to start treatment as early as possible to limit the chance of further complications. Antibiotics treat erysipelas. The exact type will depend on what germ is causing the problem, but it will often contain penicillin. It is therefore essential that anyone who is allergic to penicillin tell their doctor before starting treatment so that they can prescribe other medications, such as erythromycin or cephalexin. People with erysipelas will typically take antibiotics by mouth for between 7 and 14 days. In more severe cases, the drugs will be put directly into the skin via drip. Anti-inflammatory drugs, such as ibuprofen, can help relieve discomfort.⁷

Mrs.X had got the treatment as follows:

Medication	Dosage	Route	Frequency
Inj. Kefbactro forte	1.5g	IV	BD
Tab.Augmentin	625mg	Oral	BD
Inj. Metrogyl	500mg	IV	TDS
Inj. Para	1g	IV	SOS
Tab.Pan	40mg	Oral	BD
Ointment. T-Bact BD			
MgSO4 Glycerine dressing			
Saline soaks TDS			

There are also other ways to help relieve pain and discomfort and speed up the healing process, such as:

- keeping the infected area elevated, although still ensuring movement to try and prevent clotting
- cooling packs placed on the skin
- lotions to stop the skin getting dry and cracking
- anti-inflammatory painkillers, such as ibuprofen
- compression stockings once the infection has settled
- treatment for any breaks in the skin, often with a prescribed cream that is applied directly

Young children and older adults may also require treatment in a hospital. Occasionally, the bacteria don't respond to the antibiotic and it's necessary to try a different type of drug. Painkillers to reduce discomfort and treat the fever.

Antifungal medication for athlete's foot may be required for erysipelas.

Surgery

Surgery is only required in rare cases of erysipelas that have progressed rapidly and caused healthy tissue to die. A surgical operation may be needed to cut away the dead tissue.

Complication

For most people, antibiotics will successfully treat erysipelas within a week. However, it can take longer than a week for the skin to return to normal, and peeling may occur in the affected

areas. People who have continued episodes of erysipelas may need long-term preventive antibiotic treatment.

Without treatment, you may be at risk for various complications, including:

- an abscess
- blood clots
- gangrene, which refers to the death of body tissue
- blood poisoning, which occurs when the infection spreads throughout your bloodstream
- infected heart valves
- joint and bone infections

It's also possible for the infection to spread to your brain if you have erysipelas near your eyes.

The most common complications of erysipelas include abscess, gangrene, and thrombophlebitis.⁸ Less common complications (< 1%) are acute glomerulonephritis, endocarditis, septicemia, and streptococcal toxic shock syndrome. Rare osteoarticular complications involve joints contiguous with the erysipelas plaques and include bursitis, osteitis, arthritis, and tendinitis.

Local recurrence has been reported in up to 20% of patients with predisposing conditions, and this can lead to disfiguring and disabling sequelae, such as elephantiasisnostrasverrucosa.

Prevention⁷

Although erysipelas can't always be prevented, you can take the following steps to lower your risk:

- Always keep wounds clean.
- Treat athlete's foot if you have it.
- Use moisturizers to prevent skin from drying and cracking.
- Try not to scratch your skin.
- Make sure any skin problems, such as eczema, are treated effectively.

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