

In the name of God



Shiraz E-Medical Journal
Vol. 8, No. 3, July 2007

<http://semj.sums.ac.ir/vol8/jul2007/impetigo.htm>

Impetigo, a Brief Review.

Beheshti M*, Ghotbi Sh**.

* Family Physician, Fasa Medical School, Fasa, Iran, ** Assistant Professor, Department of Obstetrics and Gynecology, Fasa Medical School, Fasa, Iran.

Correspondence: Dr. M. Beheshti, Clinic Number 1, Fasa Medical School, Fasa, Iran. Tel: +98 (917)112-1688, Fax: +98 (731) 222-1172, E-mail: Mahmood.Beheshti@gmail.com.

Received for Publication: November 17, 2006, Accepted for Publication: February 25, 2007.

Abstract:

Impetigo is a primary superficial bacterial skin infection, initially vesicular or bullous, and later crusted. It is caused by *staphylococcus aureus*, *Streptococcus pyogenes* or both. It is highly contagious and usually treated with systemic antibiotics. Possible complications include cellulitis, lymphangitis, furunculosis, Methicillin-resistant *Staphylococcus aureus* (MRSA) infection, pigmentary changes with or without scarring and acute post streptococcal glomerulonephritis (PSGN). A concise review of literature is presented here to cover the most important aspects of impetigo.

Key Words: Impetigo, Treatment.

Introduction:

Impetigo is a superficial vesiculopustular skin infection and when extends to the deeper tissues, it is called Ecthyma ⁽¹⁾.

It usually appears on the face, especially around a child's nose and mouth. And although it commonly occurs when bacteria enter the skin through cuts or insect bites, it can also develop in skin that's perfectly healthy.

Impetigo starts as a red sore that quickly ruptures, oozes for a few days and then forms a yellowish-brown crust that looks like honey or brown sugar. The disease is highly contagious, and scratching or touching the sores is likely to spread the infection to other parts of the body as well as to other people.

Impetigo is seldom serious, and minor infections may clear on their own in two to three weeks. But because impetigo can sometimes lead to fatal complications such as acute renal failure, it should be promptly treated. The patient can return to work or school within 24 hours of starting antibiotic therapy.

Etiology and Epidemiology:

Impetigo is caused by *Staphylococcus aureus* or a Group A β -hemolytic Streptococcus (*Streptococcus Pyogenes*). The staphylococcus is the primary pathogen in bullous impetigo and ecthyma. Although purulent discharges from ears and nostrils was once suspected to be the major source for the bacteria, it is now believed that staphylococcal carriers and spread of untreated infections pole the major role.

Exposed skin is the main site of the infection. Impetigo usually (specially in adults), follows superficial trauma with a

break in the skin. Alternatively, it may be secondary to pediculosis, scabies, fungal infections, other causes of dermatides or insect bites. Sometimes, it occurs on normal skin of the children (usually on the legs).

Although anyone can develop impetigo, children ages 2 to 6 years and infants are most often infected. Children are especially susceptible to infections staphylococcus and streptococcus bacteria flourish wherever groups of people are in close contact, impetigo spreads easily in schools and child care settings. Other factors that increase the risk of impetigo include:

- Direct contact with an adult or child who has impetigo or with contaminated towels, bedding or clothing
- Crowded conditions
- Warm, humid weather — impetigo infections are more common in summer
- Participation in sports that involve skin-to-skin contact, such as football or wrestling
- Having chronic dermatitis, especially atopic dermatitis

Older adults and people with diabetes or a compromised immune system are especially likely to develop ecthyma.

Clinical Manifestations and Diagnosis:

The major site of involvement is the face (specially around nose and mouth) and legs. Lesions are gener-

ally not painful and the patient does not appear ill. Presence of fever is usually associated with other diseases or complications. The early lesions of the impetigo are clear or turbid blisters which soon become crusts, often golden yellow, with a surrounding zone of erythema. The lesions vary from a pea-sized vesicopustule to large, bizarre circinate ringwormlike lesions. In bullous impetigo, there are large blisters with no erythema. The lesions tend to heal centrally but spread peripherally. Regional lymphadenopathy is common. Staphylococcal type rapidly progress from maculopapules to vesicopostules or bullae to exudative and then honey-colored, crusted, circinate lesions.

Ecthyma is characterized by small, purulent, shallow, punched out ulcers with thick brown-black crusts and surrounding erythema. Itching is common and scratching may spread the infection.

Diagnosis is mainly based on clinical findings. Laboratory confirmation can be made with Gram stain and culture of a swab taken from the lesion to rule out Herpes virus infection.

Treatment and Complications:

Systemic antibiotics are clearly superior local antibiotics. Gentle crust removal and tap water dressing may be used for debridement. Since most cases of impetigo are caused by penicillinase-

producing staphylococci, cloxacillin or a first generation cephalosporin is the drug of choice. Penicilline-sensitive patients should receive cephalexin, because erythromycin-resistant staphylococci are becoming more frequent. Oral antibiotics should be continued for 10 days. Local antibiotics (Mupirocin 2%, tid) may be used for localized small lesions.

The patient can return to work or school within 24 hours of starting antibiotic therapy, when the lesions are no longer contagious.

Complications of impetigo include cellulitis, lymphangitis, furunculosis and Methicillin-resistant *Staphylococcus aureus* (MRSA) infection. Pigmentary changes with or without scarring may also occur. Acute post streptococcal glomerulonephritis (PSGN) may follow cutaneous infection with Group A β -hemolytic *Streptococcus*. It should be noted that acute rheumatic fever does not happen following such infections.

Prevention and Self Care:

Keeping child's skin clean is the best way to keep it healthy. Treat cuts, scrapes, insect bites and other wounds right away by washing the affected areas to prevent infection. If someone in the family already has impetigo, follow these measures to help keep the infection from spreading to others:

- Gently wash the affected areas with mild soap and running water and then cover lightly with gauze.
- Wash an infected patient's clothes, linens and towels every day and don't share them with anyone else in the family.

- Wear gloves when applying any antibiotic ointment and wash hands thoroughly afterward.
- Cut an infected patient's nails short to prevent scratching.
- Encourage the patient to wash his or her hands frequently.

For minor infections that haven't spread to other areas, try the following:

- Soak the affected areas of skin with a vinegar solution — 1 tablespoon of white vinegar to 1 pint of water — for 20 minutes. This makes it easier to gently remove the scabs.
- After washing the area, apply Mupirocin 2% ointment three or four times daily. Wash the skin before each application, and pat it dry.
- Avoid scratching or touching the sores as much as possible until

they heal. Applying a nonstick dressing to the infected area can help keep impetigo from spreading.

References:

- 1- Berkow R, Impetigo, The Merck Manual, Fifteenth edition, Merck Sharp and Dohme Research Laboratories Publication, New Jersey, 1987.
- 2- MayoClinic, Impetigo, www.mayoclinic.com/health/impetigo/DS00464.
- 3- Kennedy CTC, Impetigo, in Textbook of Medicine, Churchill Livingstone, London, 1990.
- 4- Bisno AL, Stevens DL: Streptococcal infections of skin and soft tissues, N Eng J Med; 334:20, 1996.
- 5- Wessels MR: Streptococcal infections in Harrison's Principles of Internal Medicine, sixteenth edition, New York, Mc Graw Hill, 2005.