

Pyogenic bacterial infections



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Pyogenic infections are characterized by local inflammation of skin, soft tissue and bodily parts which are mainly caused by invasion and multiplication of pathogenic microorganism. These pathogen releases certain cellular or toxic metabolites and leukocidins which destroy neutrophils forming abscess and pus. Impetigo, osteomyelitis, septic arthritis, spondylodiscitis, otitis media, cystitis, meningitis, surgical site infections are common pyogenic infections

Pyogenic Bacteria

bacteria capable of causing local purulent inflammation or generalized infection (pyemia, sepsis). The so called pyogenic cocci (staphylococci, streptococci, and gonococci) *Staphylococcus aureus*, *Streptococcus pyogenes*, and gonococci also *Escherichia coli*, *Klebsiella spp.* *Proteus spp.* and *Pseudomonas spp.* are the common etiological agents implicated in pyogenic infections . Pyogenic infections are not only the leading cause of morbidity and mortality but also responsible for prolonged hospital stay and disability worldwide

Suppurative infections caused by *S. pyogenes*

– Non-Invasive

- Pharyngitis (“strep throat”)-inflammation of the pharynx
- Skin infection, Impetigo

– Invasive

- Scarlet fever-rash that begins on the chest and spreads across the body
- Pyoderma-confined, pus-producing lesion that usually occurs on the face, arms, or legs
- Necrotizing fasciitis-toxin production destroys tissues and eventually muscle and fat tissue

Also Streptococcal Infections Beta-hemolytic streptococci give rise to an acute, diffusely spreading infection associated with malaise and fever. Located in the dermis, the infection is called erysipelas, located in the subcutis cellulitis. Cellulitis may be extended erysipelas or originate in the sub cutis. The histopathologic pattern is that of an acute inflammation with edema, dilated vessels and dense infiltrates of neutrophils. However, β -hemolytic streptococci may also give rise to non-bullous impetigo in the superficial part of the epidermis, which at first are covered by stratum corneum

Streptococcal impetigo, or non-bullous impetigo, begins as papules. The papules evolve to pustules and then break down to form thick, adherent crusty lesions . The crusts are typically golden or “honey-colored.” These lesions usually appear on exposed areas of the body, most commonly the face and extremities, but can occur anywhere on the body. Multiple lesions typically develop. In cases of non-bullous impetigo, physical examination cannot differentiate streptococcal from staphylococcal infection.

Streptococcal impetigo is most commonly spread through direct contact with other people with impetigo, including through contact with drainage from impetigo lesions. Lesions can be spread (by fingers and clothing) to other parts of the body. People with impetigo are much more likely to transmit the bacteria than asymptomatic carriers. Crowding, such as found in schools and daycare centers, increases the risk of disease spread from person to person.

Incubation period

The incubation period of impetigo, from colonization of the skin to development of the characteristic lesions, is about 10 days.¹ It is important to note not everyone who becomes colonized will go on to develop impetigo.

Risk factors

Impetigo can occur in people of all ages, but it is most common among children 2 through 5 years of age. Scabies infections and activities that result in cutaneous cuts or abrasions increase the risk of impetigo. Poor personal hygiene, including lack of proper hand, face, or body hygiene, can increase someone's risk of impetigo. Impetigo can occur in any climate and at any time of year, but is more common during the summer in temperate climates and in tropical or subtropical locations.¹



Streptococcus pyogenes caused the lesions on this patient's left forearm.



Pyogenic Infection

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