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From Rash To Recovery : A Case Report On Homoeopathic Approach To Scarlet Fever

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ABSTRACT

There has been an increase in the incidence of scarlet fever with most cases presenting in General Practice and Emergency Departments. Cases present with a distinctive macro-papular rash, usually in children. This article aims to increase awareness of scarlet fever by highlighting key symptoms and stating potential complications if untreated.

KEYWORDS: scarlet fever, strawberry tongue, red rash, high fever

INTRODUCTION

Scarlet fever is a bacterial illness that develops in some people who have strep throat. Also known as scarlatina, scarlet fever features a bright red rash that covers most of the body. Scarlet fever almost always includes a sore throat and a high fever. [1] .

Scarlet fever is most common in children 5 to 15 years of age.[1]

EPIDEMIOLOGY

Scarlet fever occurs equally in both males and females. Children are most commonly infected, typically between 5–15 years old. Although streptococcal infections can happen at any time of year, infection rates peak in the winter and spring months, typically in colder climates.

The morbidity and mortality of scarlet fever has declined since the 18th and 19th centuries when there were epidemics of this disease. Around 1900 the mortality rate in multiple places reached 25%. The improvement in prognosis can be attributed to the use of penicillin in the treatment of this disease. The frequency of scarlet fever cases has also been declining over the past century.[2]

PATHOPHYSIOLOGY

The rash of scarlet fever, which is what differentiates this disease from an isolated group A strep pharyngitis (or strep throat), is caused by specific strains of group A streptococcus that produce a streptococcal pyrogenic exotoxin, which is mainly responsible for the skin manifestation of the infection. These toxin-producing strains cause scarlet fever in people who do not already have antitoxin antibodies. Streptococcal pyrogenic exotoxins – SPEs A, B, C. and F have been identified. The pyrogenic exotoxins, also called *erythrogenic toxins*, cause the erythematous rash of scarlet fever. The strains of group A streptococcus that cause scarlet fever need specific bacteriophages for there to be pyrogenic exotoxin production. Specifically, bacteriophage T12 is responsible for the production of speA. Streptococcal Pyrogenic Exotoxin A, speA, is the one most commonly associated with cases of scarlet fever that are complicated by the immune-mediated sequelae of acute rheumatic fever and post-streptococcal glomerulonephritis.

These toxins are also known as "superantigens" because they can cause an extensive immune response by activating some of the cells that are mainly responsible for the person's immune system. Although the body responds to the toxins it encounters by making antibodies, those antibodies will only protect against that particular subset of toxins. They will not necessarily completely protect a person from future group A streptococcal infections, because there are 12 different pyrogenic exotoxins that may be produced by the disease, and future infections may produce a different subset of those toxins. [2]

SIGNS AND SYMPTOMS

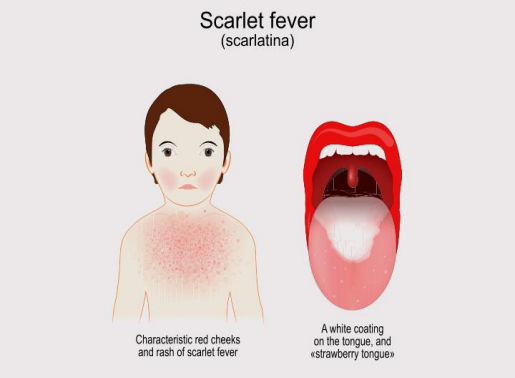
The signs and symptoms that give scarlet fever its name include:

Red rash. The rash looks like a sunburn and feels like sandpaper. It typically begins on the face or neck and spreads to the trunk, arms and legs. Pushing on the reddened skin makes it turn pale.

Red lines. The folds of skin around the groin, armpits, elbows, knees and neck usually become a deeper red than the other areas with the rash.

Flushed face. The face may appear flushed with a pale ring around the mouth.

Strawberry tongue. The tongue generally looks red and bumpy, and it's often covered with a white coating early in the disease.



VARIABLE PRESENTATIONS

Children younger than five years old may have atypical presentations. Children younger than 3 years old can present with nasal congestion and a lower grade fever. Infants may present with symptoms of increased irritability and decreased appetite. [2]

COMPLICATIONS

The complications, which can arise from scarlet fever when left untreated or inadequately treated, can be divided into two categories: suppurative and nonsuppurative.

Suppurative complications: These are rare complications that arise either from direct spread to structures that are close to the primary site of infection, or spread through the lymphatic system or blood. In the first case,

scarlet fever may spread to the pharynx. Possible problems from this method of spread include peritonsillar or retropharyngeal abscesses, cellulitis, mastoiditis or sinusitis

In the second case, the streptococcal infection may spread through the lymphatic system or the blood to areas of the body further away from the pharynx. A few examples of the many complications that can arise from those methods of spread include endocarditis, pneumonia, or meningitis. [2]

Nonsuppurative complications

Acute rheumatic fever

Poststreptococcal glomerulonephritis

Poststreptococcal reactive arthritis [2]

PREVENTION

One method is long-term use of antibiotics to prevent future group A streptococcal infections. This method is only indicated for people who have had complications like recurrent attacks of acute rheumatic fever or rheumatic heart disease. Antibiotics are limited in their ability to prevent these infections since there are a variety of subtypes of group A streptococci that can cause the infection. [2]

PHYSICAL EXAMINATION

During the physical examination, it is important to be vigilant for spreading rashes on the trunk and the medial surfaces of elbows, in addition to the desquamation of the palms. Anterior cervical node enlargement is also seen, coupled with a high temperature. When a child presents with pyrexia and tachycardia, it is important to examine the skin just below the underwear line. Other signs include enlarged papillae on the tongue (strawberry tongue) and petechiae on the soft palate. [3]

CASE OF SCARLET FEVER

PRILIMNARY DATA

NAME: - xyz

AGE: - 8 yrs

GENDER: - female

OCCUPATION: - student of 3rd class

PRESENTING COMPLAINTS

An 8-year-old child presented with complaints of:

1) severe throat pain and burning in throat

2)high grade fever and chills

3) redness and itching all over the body

DETAILS OF PRESENTING COMPLAINTS

1) Throat pain <swallowing anything and burning, on physical examination the throat was bright red in color

2) The tongue was strawberry pink in color with white coating in the middle of tongue

3) The temperature was up to 101F

4) The skin was dry and red, rash like over whole body

TREATMENT HISTORY

The pt had taken paracetamol to control the fever.

PERSONAL HISTORY

THIRST: - the pt was very thirsty

APPETITE: - reduced

URINE: - normal

STOOL: - nothing specific

SLEEP: - nothing specific

MIND

The pt was dull

The child's father has scolded and hit her the previous day after which she developed such complaints

The child's mother has mentioned that she was very scared and frightened after getting scolded and hit by her father

DIFFERENTIAL DIAGNOSIS

VIRAL FEVER

MALARIA

PROVISIONAL DIAGNOSIS

1) SCARLET FEVER

EVALUATION OF SYMPTOMS

1) Throat pain difficulty in swallowing

2) Throat was red with burning sensation

3) Fever with chills

4) Rash over whole body with redness and itching

5) Thirsty

6) Appetite reduced

7) Tongue is strawberry pink with white coating in middle

8) Easily frightened

TOTALITY OF SYMPTOMS

1) THROAT PAIN < SWALLOWING

2)THROAT RED AND BURNING

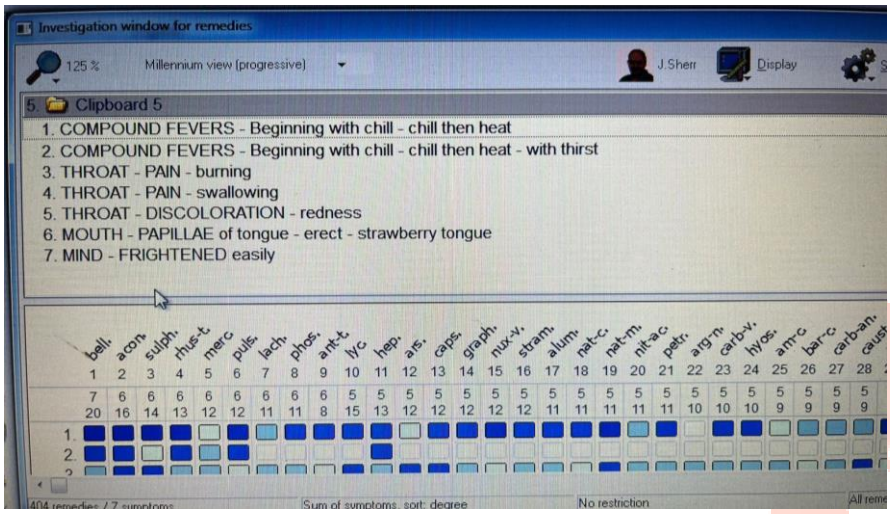
3) FEVER AND CHILLS

4) THIRST DURING FEVER

5) SKIN DRY, ERUPTIONS, RED, ITCHING

6) TONGUE STRAWBERRY AND WHITE COATED IN MIDDLE

7) EASILY FRIGHTENED



CHOICE OF REMEDY

BELLADONA 1M

Water dose: - pills dissolved in 1 cup of water, from those 2 spoons given 3 times a day.

RESULTS

1st dose: - no recurrence of fever, with little reduction of throat pain, rashes were still present.

2nd dose: - throat pain reduced further, with itching reduced, no fever.

3rd dose: - throat pain completely gone, pt was able to eat now with appetite improved, and rashes reduced.



CONCLUSION

While scarlet fever may no longer be as common as it once was, it remains an important illness to understand, especially given its potential complications if left untreated. Early detection and appropriate treatment are key to a full recovery and preventing the spread of the infection.

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