

Epidemiology Bulletin

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8 Scarlet Fever Cases in Cathay General Hospital, Taipei

Scarlet fever is rarely seen now as a result of the increasing use of antibiotics. However, beginning from the second half of 1987, several clinically suspected scarlet fever cases have been found in the Cathay General Hospital, of them, 8 have been identified through throat swab cultures as streptococcus infection and diagnosed as scarlet fever. This report presents the clinical symptoms, laboratory diagnoses, and treatment of these eight cases.

Ages of these eight cases range from three years to 8 years and 9 months, averaging 5 years and 8 months, and male to female sex ratio is 7:1. Two of them got sick in June 1987, and the rest in December 1987 and January 1988. Major clinical symptoms include high fever at 39°C and above, sore throat, vomiting, and headache. Rashes developed a day after the high fever, mostly pimples with scarlet bottoms, itching, and sand-paper like feeling. Rashes began to desquamate in about five days and disappeared completely in about ten days. Laryngeal examinations all showed medium to severe swelling, and some pus discharge and hemorrhagic points. In 4 cases, the swelling of lymph nodes could be felt; four cases had abnormal pale and four had strawberry tongue.

Laboratory data of blood showed: high WBC, particularly PMN, and high ESR. Except one case, there was no increase in the group A streptolysin O (ASO) titers between the two tests at the early stage of disease and 10 days later. At the early stage of disease, all throat swabs showed group A streptococci growing and antibiotic sensitivity tests showed 100% sensitive to penicillin, ampicillin, cephalosporin, and 50% drug-resistant to erythromycin. Patients were treated with injectable or oral penicillin or ampicillin for 10 days with remarkable result. Fever dropped in one day, and no more group A streptococci were found in the throat swabs after treatment.

These eight cases can be diagnosed with sure as scarlet fever because they all indicated some typical clinical symptoms of scarlet fever¹ such as: high fever, laryngeal inflammation and skin rashes, group A streptococci were found in their throat swab cultures, and they responded significantly to the antibiotic treatments. There are other clinically suspected cases but are not confirmed by laboratory tests

The ASO titers between the two tests of these eight cases, except one case who came for treatment late, did not show any increases, and their rashes were mild and of shorter duration. This may have been related to the earlier administration of antibiotics. The sensitivity tests to antibiotics of these eight cases were 50% drug-resistance to Erythromycin, which is higher than the 2.8% reported by JD Arthur² et al of USA but is close to the 60% reported by S Maruyama³ et al of Japan. This result is considered to be related to the abuse of antibiotics.

The first choice for the treatment of group A streptococcal pharyngitis and scarlet fever is Penicillin⁴. For cases hard to be followed-up, either the intramuscular injection of Benzathin Penicillin G for one dose (1.2 million units for persons with body weight above 27 kg and 600,000 units for body weight less than 27 kg) or oral Penicillin or Ampicillin for 10 days (40 mg/kg/day) can be administered. For persons sensitive to Penicillin, Erythromycin or first generation of Cephalosporin yields similar treatment result.

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Editorial Note: Case reports of scarlet fever in Taiwan Area reached a peak in the 1920's and 30's⁵. Since then, very few cases had been reported, and between 1956 and 1985 there had been only three cases, one each in 1968, 1971 and 1978. However, there were 5 cases in 1986 and 24 cases in 1987⁶. This sudden increase seems to indicate a minor epidemics and ought to be observed closely.

Scarlet fever occurs more frequently in temperate and subtropical zones during the end of winter and early spring in children between 3 and 15 years old: Most persons above the age of 15 years have been infected and are either immune or carrying antitoxin, so very few cases are reported from this age group. The mode of transmission is through person-to-person contact and rarely through other media. Persons who are carriers or in the incubation period of the disease are infectious. The incubation period is short, from one to three days, and the disease could, without treatment, last for 10 to 21 days and even months. With proper administration of antibiotics, the disease can be brought under effective control within 24 to 48 hours.

Now that antibiotics are readily available, scarlet fever is no longer a serious disease. Its complications, however, such as acute rheumatic heart diseases and glomerulonephritis can affect health seriously. Close attention should be paid to the early diagnosis and treatment of scarlet fever. Scarlet fever is one of the 11 notifiable diseases of ROC, any suspected or confirmed cases should by law be reported to the local health authority within 24 hours for prompt handling to protect the health of the people.

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