Rose Spots in Non-typhoidal Salmonellosis
-A Case Report

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Rose spots are known as one of the symptoms of the untreated typhoidal salmonellosis patients. However, they are rarely seen or reported in patients with bacteremia caused by other species of salmonella. In this article, we report a man who manifested with productive cough, mild fever, general weakness, and drowsiness. Pneumonia, urinary tract infection and anemia were impressed initially. After admission, he developed fever, diarrhea, and leukocytosis. Erythematous papules were noted over the trunk and thighs 3 days later. Blood and stool cultures were shown to be positive for Group B Salmonella. Biopsy of the erythematous papules was performed and the histopathology showed telangiectasia and leukocytoclastic vasculitis, which were compatible with the characteristics of 'rose spots'. After several days of ceftriaxone treatment, the lesions subsided. Our case may be the first reported case of rose spots in non-typhoidal salmonellosis patient in Taiwan. Although not frequently seen, when facing patients with rose spots, we should consider the possibility of both typhoidal and non-typhoidal salmonellosis. (Dermatol Sinica 25: 112-114, 2007)

Key words: Non-typhoid, Rose spots, Salmonella, Typhoid fever.

在未接受治療的沙門氏菌感染病人身上， “玫瑰斑” 是可能發現的一種皮膚徵候。但是，在非傷寒型沙門氏菌感染造成菌血症的病人身上較少發現此種病徵。我們報告一男性成人其最初表現為咳嗽有痰、發燒、全身無力及意識不清。一開始的臨床診斷是肺炎、泌尿道感染及貧血。住院後，病人出現發燒、腹瀉、以及白血球增多；3天後，病人的軀幹及大腿出現紅色的丘疹。血液及糞便培養皆證實存在有Group B的沙門氏菌感染。紅色丘疹的皮膚切片中可發現有微血管擴張及白血球破碎性血管炎，此與玫瑰斑的病理特徵相符。當以ceftriaxone治療此病人之後，其皮膚病灶隨即消退。此病例為台灣首次之非傷寒型沙門氏菌感染造成玫瑰斑的病例報告，雖然並不常見，當病人以玫瑰斑症狀表現時，傷寒型及非傷寒型沙門氏菌感染皆須考慮。（中華皮誌 25: 112-114, 2007)

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INTRODUCTION

Rose spots are known as one of the symptoms of the untreated typhoidal salmonellosis patients. However, they are rarely seen or reported in patients with bacteremia caused by other species of salmonella. In this article, we report an acutely ill man who presented with several discrete erythematous and purpuric papules (rose spots) on the trunk and proximal extremities caused by non-typhoidal salmonellosis.

CASE REPORT

An 80-year-old man visited emergency department because of progressive shortness of breath, productive cough, fever and drowsiness for several days. The chest X-ray showed haziness over left lower lobe, which was suspected to be pneumonia. The laboratory examinations showed leukocytosis with left shift and anemia. Blood cultures were obtained, and were shown to be positive for Group B Salmonella days later. On the fourth day of admission, watery diarrhea developed. We sent the stool for culture, which was also positive for Group B Salmonella. One week after admission, several erythematous papules, sizing from 3- to 4-mm, mainly distributing on the anterior trunk and proximal extremities were noticed (Fig. 1). Those erythematous papules were not pruritic nor painful. The distal extremities were spared. A skin biopsy was performed and the results showed perivascular mononuclear cell infiltration over the upper dermis, telangiectasia, and leukocytoclastic vasculitis (Fig. 2). After several days of ceftriaxone treatment, the lesions subsided.

DISCUSSION

The Salmonella spp. are Gram-negative bacilli; some species, notably S. typhi and S. paratyphi, are primarily human pathogens; others are primarily pathogenic for other animals but may infect humans. Rose spots are mentioned in several diseases, including psittacosis, leptospirosis, brucellosis, rat-bite fever, shigellosis, and salmonellosis; but they are usually not of importance, or infrequently seen, except in salmonellosis. Rose spots in salmonellosis are usually 2- to 3-mm in diameter, asymptomatic.

Fig. 1
(A) Erythematous papules, sizing from 3- to 4-mm, mainly distributing on the anterior trunk and proximal extremities were noticed. (B) The closer view of an erythematous asymptomatic papule.

Fig. 2
(A) The histopathology showed telangiectasia, mononuclear cells infiltrate in dermis, and leukocytoclastic vasculitis. (H&E stain, x200). (B) The higher power view. (H&E stain, x400).
discrete erythematous papules which may blanch on pressure. They are usually distributed on the anterior surface of trunk, especially areas between nipples and the umbilicus. Rarely, they are located on the extremities and back.1 The lesions usually appear about 7 days after fever.1 The histological features of the rose spots include dilatation of capillaries (capillary atony), leukocytoclastic vasculitis, edema and perivascular infiltrates of macrophages.3

The pathogenesis of rose spots is still unclear, but intradermal injection of salmonella endotoxin would produce skin lesions clinically and histopathologically resembling rose spots.3 Another opinion about the etiology is that the rose spots were the result of a local cutaneous inflammatory response to Salmonella.1 Rose spots could be seen in 30%–60% of typhoid and paratyphoid infection patients, but they are infrequently seen in enteric fevers caused by other Salmonella species.1 In one study about typhoid fever patients, no rose spots were seen in the total 30 typhoid fever patients, which may be due to early administration of antibiotics.6 In other words, early administration of appropriate antibiotics may decrease the incidence of rose spots.1

Isolation of Salmonellae from stool is difficult as they consist of only a small portion of the fecal flora. However, isolation from skin lesions (eg. rose spots) and blood are much easier because they are usually pure cultures of a given Salmonella species. Cultures of the typical rose spots may be positive for Salmonella in 65 to 95 % of cases, even when patient is receiving antibiotics or when blood cultures are negative.3

Infections of non-typhoid Salmonella species are usually caused by contaminated food.7 They usually only cause gastroenteritic symptoms, and rarely induce enteric fever or septicemia. Fewer than 10% of patients with non-typhoid Salmonella infection develop extraintestinal infections.8 The major risk factors for non-typhoid salmonellosis and bacteremia are certain immunocompromised conditions, including extremes of age, alteration of the endogenous bowel flora of the intestine, diabetes, malignancy, autoimmune disorders, reticuloendothelial blockade, HIV infection, and therapeutic immunodeficiency.5 If rose spots appear in patients with non-typhoid Salmonella infection, they are often widespread and present in large numbers.1 In the literature, we only found one case report that described rose spots in non-typhoidal salmonellosis patient in Japan. Our case may be the first reported case of rose spots in non-typhoidal salmonellosis patient in Taiwan. Although not frequently seen, when facing patients with rose spots, we should consider the possibility of both typhoidal and non-typhoidal salmonellosis. Even though the diagnosis of enteric fever (Salmonella infection) is usually made by obtaining blood cultures, other culture materials, such as rose spots, may be of importance, especially in patients who have had prior inappropriate antibiotics treatment or when blood cultures are negative.

REFERENCES
Nail-splinting Method With Plastic Tubes for Ingrown Toenails

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Ingrown toenail is a common disorder in the great toe. Many factors involved include a combination of chronic trauma from tight shoes and improper trimming of the nail. Many treatments have been described for ingrown nails. But they have many disadvantages, such as a prolonged wound-healing period, the production of an unsightly nail, or the restriction of normal activities. We performed a modified method of lateral nail manipulation with placement of splints on 6 patients who gained instant relief from pain and resumed normal activities immediately. Most patients (5/6) experienced no recurrence 20 months after the treatment. (Dermatol Sinica 25: 115-118, 2007)

Key words: Ingrown nail, Nail-splinting method

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