

Dermatitis Associated with Treponematosi s in Pet Rabbits

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Abstract : Treponematosi s, called rabbit syphilis, is an infectious disease caused by *Treponema cuniculi* in rabbits. In this case report, five rabbits were presented with severe crusts in lips, genitalia and nose. Skin scrapings and fungal test were negative. Human syphilis antibody test was positive. The rabbits were treated with penicillin and chloramphenicol for 3 weeks and the crusts were significantly decreased from 5 to 7 days after treatment. No crusts were evident in the rabbits 3 weeks after treatment. These rabbits were cases of treponematosi s which showed a favorable therapeutic response by penicillin and chloramphenicol.

Key words : chloramphenicol, penicillin, rabbit, syphilis, treponematosi s.

Introduction

Treponematosi s, caused by the spirochete *Treponema cuniculi* (*T. cuniculi*), is an infectious disease in rabbits that is transmitted by sexual and direct contact (1,2,5). This disease may be called rabbit syphilis or vent disease. Although *T. cuniculi* is antigenically similar with human syphilis, *Treponema pallidum*, it is not a zoonotic disease. Antibodies to *T. cuniculi* do cross react with antigens of *T. pallidum* (1,5). Clinical signs are asymptomatic but can cause crusty and edematous lesions on the nose, lips, eyelids or genitalia. Diagnosis can be made by skin biopsy or serology. Penicillin, tetracyclines and chloramphenicol have been used to treat treponematosi s (1,2,4,5).

There have been no published reports about rabbit treponematosi s in Korea. Here, the authors report 5 cases with treponematosi s which showed a favorable therapeutic response with penicillin and chloramphenicol treatment in pet rabbits.

Case

Five rabbits (4 to 10 months old, 0.9 to 1.7 kg, three males and two females) were presented with chief complaints of crusts around lips, nose and genitalia (Table 1). Case 1 had been treated for fungal infection in another animal hospital for 2 months. However, the lesions were repeated recovered and reoccurred (Fig 1A). The remaining four cases were brought to the animal hospital for their initial diagnosis and treatment. Skin scrapings and fungal test were negative. Human syphilis antibody test (Asan Easy test Syphilis[®], Asan Pharm Co., Ltd, Korea) was positive. The rabbits were

treated with three shots of penicillin G 42,000 IU/kg (Penicillin[®], Green Cross Veterinary Products co., Ltd., Korea) given every 7-days and oral chloramphenicol 50 mg/kg (Helocetin Cap[®], Chong Kun Dang Pharmaceutical co., Ltd., Korea) twice a day for 3 weeks. The rabbits were re-evaluated at 1, 2, 3 and 6 weeks after treatment. Owners observed that the crusts were significantly decreased from 5-7 days after treatment. After the 3 weeks treatment period, there were no crusts observed in the rabbits (Fig 1B). The rabbits were treated successfully without adverse reactions such as anorexia and diarrhea. No recurrence was detected at 3 to 4 months after treatment.

Discussion

In this case report, five rabbits with treponematosi s were successfully treated with penicillin injections and oral chloramphenicol. No adverse reactions occurred to the antibiotics and treponematosi s did not recur at 3-4 months after treatment.

Treponematosi s is non-zoonotic and transmitted by venereal and vertical at parturition and lactation. Incubation period is 10-16 weeks. First lesions appear at genitalia.

Table 1. Signalments and skin lesions in rabbits

Case No.	Breed	Age (Months)	Gender	Skin Lesions
1	Dutch	7	F	Lips and nose
2	Lion-head	4	M	Lips
3	Dutch	5	F	Lips
4	Mongrel	4	M	Lips and nose
5	Lion-head	10	M	Lips and genitalia

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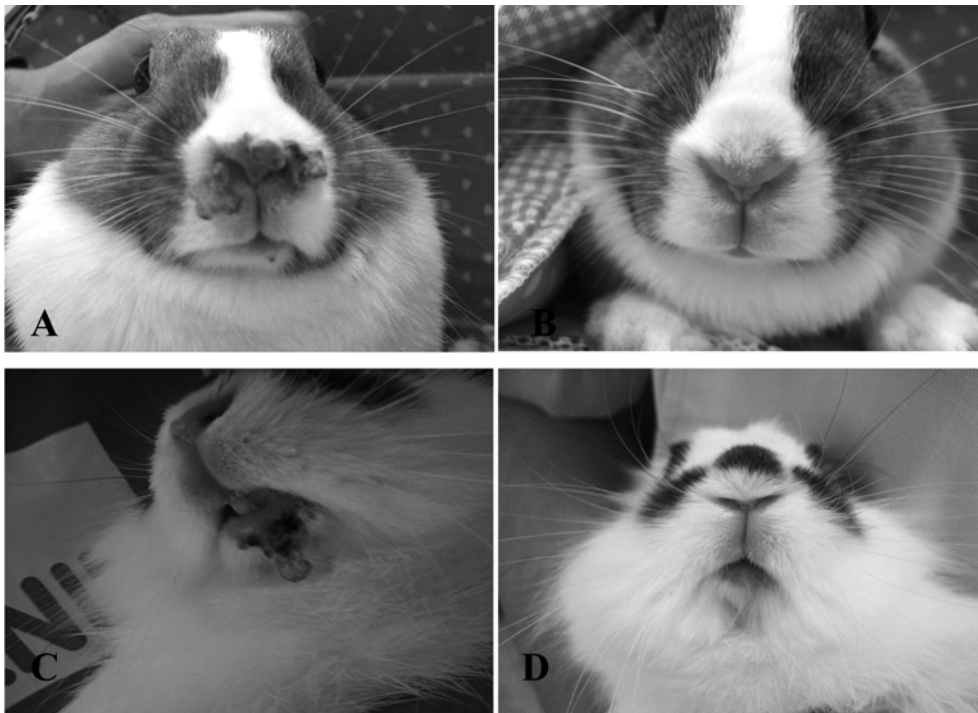


Fig 1. (A, C) There were crusty lesions in lips or nose. (B, D) There were no crusts at 3 weeks after treatment.

Grooming activity by rabbit leads to infection lips, nose and eyelids (5). Saito *et al.* (3) reported detection of lesions around nose (87.3%), genitalia (34.9%), lips (31.7%), eyelids (19.0%) and anus (15.9%). In this case report, only one of five rabbits had edema and crusts of genitalia and the others had lesions of lips or nose.

Treatment options for treponematosis are penicillin, tetracyclines and chloramphenicol (1,2,4,5). Saito *et al.* (4) reported that 14 rabbits in 39 rabbits relapsed when treated only with chlormaphenicol. Penicillin is first choice for syphilis treatment in humans and rabbits (1), but penicillin may cause enterotoxemia in rabbits. The effective dose range from 42,000-84,000 IU/kg (1,5).

In this case report, the rabbits were treated with 3 injections of penicillin G 42,000 IU/kg given every 7-days and oral chloramphenicol 50 mg/kg twice a day for 3 weeks. Penicillin was used the lowest dosage to prevent enterotoxemia. The rabbits were re-examined 1, 2 and 3 weeks after treatment. Owners observed that the crusts were significantly decreased from 5-7 days after treatment. After 3 weeks of treatment, there were no crusts observed in the rabbits. The

rabbits were treated successfully without adverse reactions such as anorexia and diarrhea. No recurrence was detected at 3-4 months after treatment.

This case report suggests that a treatment with minimal dose of penicillin and chloramphenicol is effective for treponematosis in pet rabbits.

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애완 토끼에서 토끼 매독에 의한 피부염

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요 약 : 토끼에서 토끼 매독이라 불리는 Treponematosi s는 *Treponema cunicul*에 의해 유발되는 전염성 질환이다. 본 증례 보고에서 5 마리의 토끼가 입술, 생식기, 코 주변에 심한 딱지로 내원하였다. 피부 소파 검사와 곰팡이 배양 검사에서 음성이었다. 인체 매독 항체 검사는 양성이었다. 토끼들은 penicillin과 chloramphenicol로 3 주간 치료를 했다. 딱지는 치료 5-7일 후부터 상당히 감소를 했다. 치료 3 주 후 토끼들에게서 딱지는 관찰되지 않았다. 토끼들은 상기의 치료로 부작용 없이 성공적으로 치료되었다.

주요어 : 매독, 토끼, chlormaphenicol, penicillin.