中文題目：多發性關節炎伴隨多處手掌和足底瘀點：個案報告
英文題目：Polyarthritis with Petechial lesion on Palms and Soles : A Case Report
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Introduction:

Rat bite fever is a disease caused by *Streptobacillus moniliformis* or *Spirillum minus* infection. The disease was diagnosed empirically sometimes because the bacteria are hard to culture. As a result, history taking and clinical features are very important.

Case Presentation:

A 36-year-old man without systemic disease came to emergency department after a one-week history of intermittent fever. Progressive arthralgia and swelling were complained about over bilateral wrist, right elbow, right shoulder, fingers and toes (Figure 1, 2). He had petechiae like in both hands located on fingers and soles (Figure 3, 4). Skin rash were found at bilateral legs. However, the patient refused admission initially so we discharged him with Amoxicillin-Clavulanate and Doxycycline. After 2 days, he came back and was admitted due to not much improved symptoms. After admission, empiric therapy was started with IV ceftriaxone and doxycycline.

The lab data drawn at ER and 2 days after oral antibiotics treatment were showed below(Table 1). His Rheumatic factor, ANA, anti-DNA, anti-ENA, RPR serum test, TSH, free T4, ACTH, cortisol were all in normal range. Other viral serologic studies were negative (including HIV, HBV, HCV, EBV, ASLO, HLA-B27, parvovirus B19). Urine PCR test for chlamydia, gonorrhea and stool PCR test all showed negative results. His fever and arthralgia improved after antibiotics, NSAID and steroid treatment. One set of blood culture obtained at ER revealed *Streptobacillus moniliformis* on 9/25, so rat bite fever was impressed. His follow up lab data showed much improvement so the patient was arranged discharge with oral antibiotics (Cefspan and Doxycycline).

During OPD follow up, his right wrist joint fluid aspiration showed culture negative and no vegetation was noted in transthoracic heart echo.

Discussion:

Rat-bite fever is a rarely observed disease. It is usually transmitted by a rat bite. Some are diagnosed after exposure to the urine or other bodily secretions of an infected rodent. More importantly, the disease was not able to be transmitted from person to person. This patient’s clinical manifestations were consistent with the literature on acute fever syndrome followed by myalgia, headache and especially severe migratory arthralgia. The initial symptoms are frequently followed by a

maculopapular rash on the extremities, which are then followed by polyarthritis in up to 50% of patients.

The rash is typically seen on the extensor surface of the extremities and may involve the palms and soles. Usually maculopapular, but it can be petechial, purpuric, or even with hemorrhagic vesicles. In our patients, he had typical petechial lesions on palms and soles. The arthritis typically involves the knees, followed by ankles, elbows, wrists, shoulders, and hips. The presentation of arthritis is mostly polyarticular. The distribution is asymmetric in some cases.

Diagnosis is made by direct observation of the causative organism in tissue or blood (mostly in blood culture) and some can be done by 16-s rDNA PCR.

Associated complications include septic arthritis, endocarditis, pericarditis, pneumonia, and meningitis. Thirteen percent of untreated cases are fatal, but most cases resolve spontaneously within 2 weeks after treatment.

Penicillin is the treatment of choice for RBF, and the duration of intravenous therapy is at least seven days in adult patients (followed by treatment with oral penicillin for an additional 7 days). Other alternative treatments include ceftriaxone or doxycycline when there is a history of penicillin allergy.

Conclusion:

The prevalence of Rat bite fever is more than we imagine. Nevertheless, the diagnosis by culture is sometimes hard to detect. It often requires clinical diagnosis. In a fever of an unknown patient with high risk of contact with rat, bitten by rat or even the food contaminated by rat, when presented with polyarthritis, maculopapular rash or petechiae on soles and palms, we should keep rat bite fever as an differential diagnosis in our mind.

Table 1

	WBC	RBC	Hb	Hct	MCV	PLT	seg	lym	mono	Eos
9/20	10000 /μL	3.77*10^6 /μL	13.8 g/dL	37.4%	92.2 fL	107*10^3/μL	83%	4.5%	12 %	0.2%
9/22	8400	3.52*10^6	12.6	35.3%	100.3	212*10^3	70%	16.2%	13.0%	0.2%

	BUN	**Crea**	Na	K	**AST**	**ALT**	**CRP**
9/20	No data	**2.23** mg/dL	127 meq/L	2.9 meq/L	No data	**56** IU/L	**23.64** mg/dL
9/22	30	0.71	140	3.2	**160** IU/L	**112** IU/L	**12.87**

Figure 1

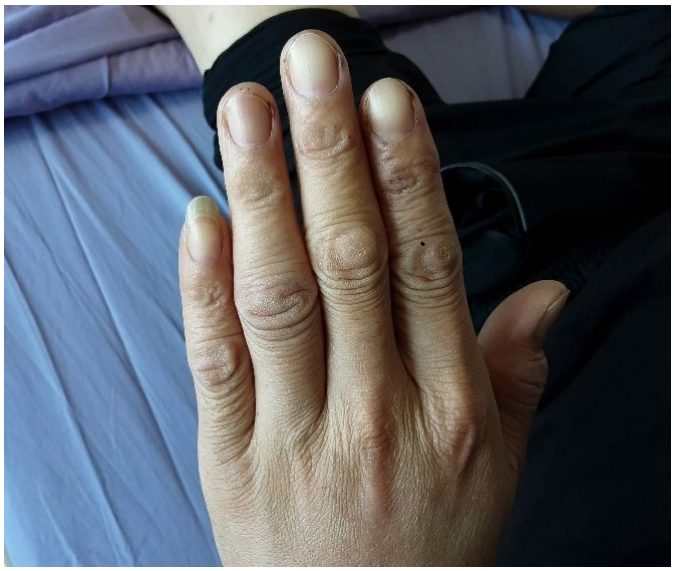

Figure 2

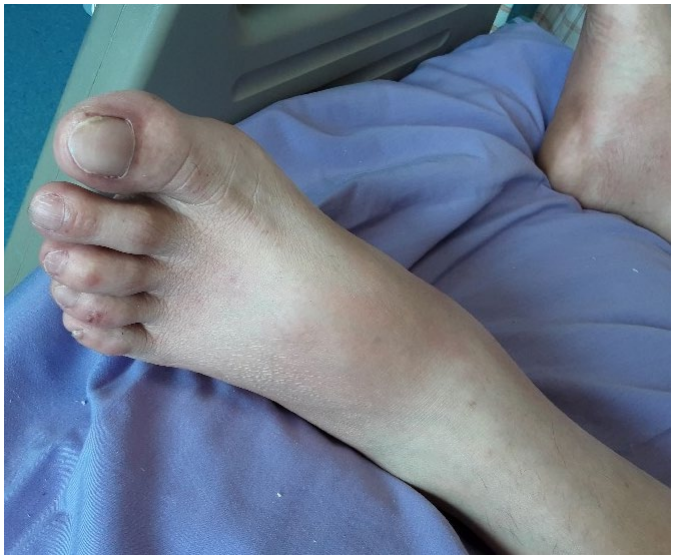

Figure 3

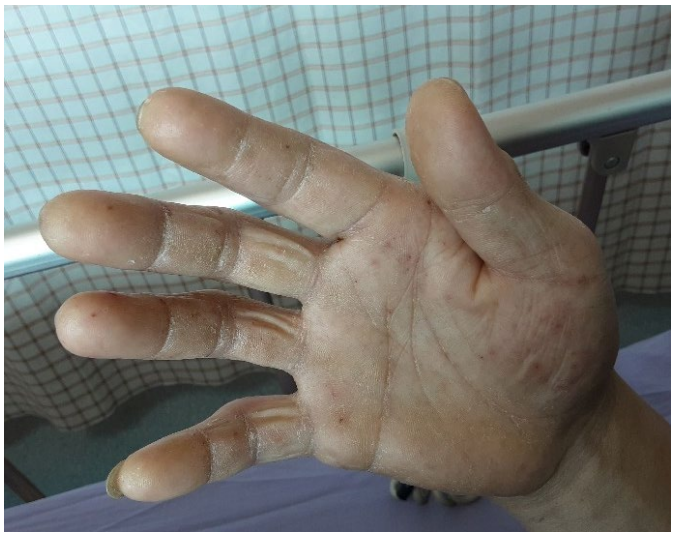

Figure 4