The bacterium Pasteurella haemolytica is resident in the oral cavities of dogs and cats and is often a cause of zoonotic infection. However, it is rare for it to be the pathogenic bacteria behind pyogenic spondylitis, and few studies have been conducted on it. This article reports a case of pyogenic cervical spondylitis thought to be caused by excessive contact with pet dogs.

A 52-year-old man reported neck pain and pain in the right upper limb. He was admitted after plain radiographs and magnetic resonance imaging suggested pyogenic spondylitis. Pasteurella haemolytica was detected by needle aspiration biopsy of the intervertebral disk. Because the patient owned 2 dogs and frequently kissed them on the mouth, the cause of infection was thought to be excessive contact with pet dogs. Symptoms were alleviated with bed rest and administration of antibiotics with a higher sensitivity to this bacterium.
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**CASE REPORT**

A 52-year-old man with no noteworthy history presented to his local clinic with neck pain and pain in the upper right limb. He was referred to our institution when plain radiographs and magnetic resonance imaging (MRI) suggested spondylitis. On admission, he had normal deep tendon reflexes, and no muscle weakness or sensory impairment was confirmed. White blood cell count was 11,800/mm³, C-reactive protein level was 3.1 mg/dL, and erythrocyte sedimentation rate was 74 mm/hour, indicating an inflammatory reaction.

Plain radiographs confirmed narrowing of the intervertebral disk space between the fifth and sixth cervical vertebrae (Figure 1). Magnetic resonance imaging confirmed uneven compression of the fifth and sixth cervical intervertebral disks and a low T1, high T2 signal variation in the vertebral bodies (Figure 2).

Needle aspiration biopsy was performed under diskographic guidance on the day of admission. Bed rest was advised and an antibiotic (cefazolin) was administered. *Pasteurella haemolytica* was detected on bacterial culture. On further history taking, the patient was found to have 2 Corgi dogs that he frequently kissed on the mouth. He was switched to another antibiotic (cefmetazole), which has a higher sensitivity to this bacterium, and was given this drug for 1 month. His neck pain gradually subsided, and improvement of inflammation was confirmed.

Two months later, radiographs showed progression of the narrowing of the intervertebral disk space, and MRI confirmed alleviation of the inflammation (Figure 3), after which ambulation was initiated. Having experienced no relapse after being fully ambulatory, he was discharged. No relapse of the spondylitis or accompanying neck pain was observed 1 year after discharge.

**DISCUSSION**

Pyogenic spondylitis is an infectious disease that mainly occurs through hematogenous dissemination and is more likely to afflict compromised hosts, such as diabetics, cirrhosis patients, or patients who are on hemodialysis. The pathogenic bacterium is often Gram-positive bacteria, and *Pasteurella* species are only rarely observed. In the present case, *P. haemolytica* was identified from the results of a culture from the biopsy. We searched the literature for reports on spondylitis caused by *P. haemolytica* to the greatest extent possible, but it seems that the present case is the first.

The *P. haemolytica* bacterium is an anaerobic Gram-negative short bacillus bacterium resident in the oral cavities of animals other than humans (71%-90% of cats and 21%-60% of dogs), causing zoonosis (zoonotic infection). An animal bite or scratch sometimes leads to cellulitis or osteomyelitis. When compared to the causative bacteria in other zoonotic infections, the prevalence of this pathogen is high, but little is known about this bacterium.

Generally, in pyogenic spondylitis, the first line of treatment is administration of first-generation cephalosporin antibiotics, to which Gram-positive bacteria are sensitive. However, in certain cases, as in the present case, the pathogenic bacterium is an anaerobic Gram-negative bacillus bacterium, rendering this treatment ineffective, indicating that it is extremely important to identify the causative bacterium. The identification rate tends to be refractory and decreases according to the delay in beginning treatment. Accordingly, in pyogenic spondylitis, it is important to di-
agnose early, proceed to proper treatment that includes rest, and conduct tests.

In the present case, because the patient owned 2 dogs and frequently kissed them on the mouth, this excessive contact was thought to be the cause of infection. The recent pet boom has caused an increase in the infections caused by *P haemolytica* bacteria from bite wounds. Osteomyelitis has also been reported in the field of orthopedics, and keeping in mind the fact that pyogenic spondylitis is also caused by this bacterium, it is important to engage in routine treatment regimens.

**REFERENCES**


