

## First case of *Streptococcus equi* subsp. *zooepidemicus* infection in hippophagist in South Korea

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The bacterium *Streptococcus equi* subsp. *zooepidemicus* (*S. zooepidemicus*) is the causative agent of the highly contagious upper respiratory disease “strangles” in horses, it is known to rarely cause in humans. This zoonotic infection has been reported to food-borne sources and close contact with horse. Herein, we reported the first case of multiple joint infection and pyogenic spondylitis caused by *S. zooepidemicus* in hippophagist in South Korea. A 58-year-old man presented to the emergency department with a 3-day history of both knee pain and swelling. His medical history was hypertension and end stage renal disease. On physical examination, his vital status was as follows: blood pressure, 171/84 mmHg; pulse rate, 77/min; and body temperature, 37.9°C. His mental status was alert, and he had no history of trauma. Laboratory results revealed a white blood cell counts of 8,600 (normal 4,000–10,000cells/μL), uric acid of 2.1 (normal 4–7mg/dL), erythrocyte sedimentation rate of 104 (normal 0–9mg/dL), and c-reactive protein of 18.38 (normal 0.00–0.30mg/dL). On 5th Hospital days, penicillin susceptible *S. zooepidemicus* isolated from both knee joint fluid and blood culture. He said that eating raw horse meat a week ago, there was no contact with horse. Antibiotic drug was changed from cefazolin to ampicillin/sulbactam. Knee pain was gradually relieved, but he developed a left shoulder pain and lower back pain after one month. Magnetic resonance imaging revealed a septic arthritis on left shoulder, pyogenic spondylitis on L5/S1 vertebrae. We changed to levofloxacin of antibiotics, he was performed an incision and drainage of the left shoulder joint, open discectomy of L5/S1. 16s rRNA gene analysis was used for species identification, *S. zooepidemicus* was confirmed with an accuracy of 99% using the BLAST algorithm. He maintained an intravenous antibiotic treatment followed by rehabilitation for two months, the patient was gradually recovered. This case emphasizes that *S. zooepidemicus* transmitted from raw food-borne from horses can lead to severe infections in humans. This infection should be recognized as an emerging zoonosis for horse-related industry and hippophagist.

