

Pasteurella multocida bacteremia, spontaneous bacterial peritonitis and septic arthritis in a cirrhotic patient

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Sir

Pasteurella sp. are Gram negative coccobacilli found in the oral cavity and gastrointestinal tract of many domestic and wild animals and birds. Infections in humans are usually caused by animal bites, and mostly involve soft tissues. Syndromes such as bacteremia, septic arthritis and peritonitis are rather unusual¹. We here report a patient with the combination of Pasteurella multocida bacteremia, spontaneous bacterial peritonitis (SBP) and septic arthritis.

A 55 year old man with non-compensated alcohol-related cirrhosis (Child-Pugh score 13), presented with a 3 day-history of high grade fever (T>39 °C). Physical examination revealed jaundice, large ascites, lower extremity pitting edema and right knee arthritis with effusion. Diagnostic paracentesis yielded a hazy fluid with 24,000 white blood cells/μL, (80% neutrophils), and 2500 red blood cells/μL. Gram stain did not reveal any bacteria. Knee effusion aspiration also yielded a hazy fluid, with 92,000 white blood cells/μL (85% neutrophils), 320,000 red blood cells/μL, and a Gram stain with no bacteria. Based on the above findings we diagnosed SBP and septic arthritis and the patient was started on ampicillin/sulbactam 3gr qid iv. All cultures from blood, ascitic and joint fluid grew Pasteurella multocida which was susceptible to ampicillin, beta lactam-lactamase inhibitor combinations, third generation cephalosporins, fluoroquinolones, trimethoprim/sulfamethoxazole, and tetracyclines.

Endocarditis was excluded by transesophageal echocardiogram while MRI of the right lower limb excluded osteomyelitis. The patient was discharged on the 18th day of hospitalization and he completed 6 weeks of antibacterial therapy as outpatient. Six months after his admission the patient was doing well.

Several Pasteurella species are human pathogens, however most human infections are caused by P. multocida and involve the skin and soft tissues e.g cellulitis and subcutaneous abscesses. Less frequently however, Pasteurella spp can cause arthritis, osteomyelitis, pneumonia and in rare cases bacteremia, central nervous system infections, peritonitis and endocarditis^{1,2}.

Spontaneous bacterial peritonitis and septic arthritis are rare manifestations of P. multocida infection, with 15 and 35 reported cases respectively^{3,4}. We assume that the primary event was bacteremia with subsequent hematogenous involvement of the knee joint and the peritoneum. We note that, although our patient kept a pet dog, he denied being bitten or scratched. However, bacteremia after non-bite animal exposure has been reported in cirrhotic patients by Tseng et al, who described two patients with P. multocida bacteremia after close contact with dogs, despite no history of bite or scratch⁵. Alcoholic liver cirrhosis is among the commonest underlying conditions in patients with Pasteurella spp infections, especially bacteremia. Case series and literature reviews report that approximately one third of patients with Pasteurella spp bacteremia, had liver cirrhosis². In addition, alcoholism was present in approximately 12% of the cases of P. multocida septic arthritis^{2,4}. We should note that although Pasteurella is an uncommon cause of SBP in cirrhotic patients, clinicians should bear in mind this possibility in patients keeping domestic animals.

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Conflict of interest statement

All authors declare that they have no conflict of interest.

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