Please, Do Not Forget Pasteurella multocida

To the Editor—In their article in Clinical Infectious Diseases, Weese et al. [1] provide an accurate analysis of the risks of infection that are related to visiting petting zoos. We would like to add Pasteurella multocida to the list of the infective agents that are potentially transmitted after an animal contact.

P. multocida is estimated to infect 20%–50% of the 1–2 million Americans (primarily children) who are bitten or scratched (and whose open wounds are licked) by dogs and cats each year. Furthermore, cases of Pasteurella infection also have been reported after bites from a variety of other animals, including pigs, rats, lions, opossums, and rabbits [2, 3].

P. multocida is a gram-negative, nonmotile, and facultatively anaerobic bacterium. It is a member of the normal flora of the upper respiratory tract in a number of animal species. P. multocida has a global distribution, with the range of particular subgroups and subspecies being dependant upon the distribution of the host species and other environmental factors. It has been estimated that as many as 66% of dogs and 90% of cats are colonized with this organism, typically in the respiratory and gastrointestinal tracts [4]. P. multocida is a frequent cause of opportunistic infections in domestic livestock and is responsible for annual losses of several hundred million dollars to animal production [5].

Persons at risk for infection related to animal exposure include veterinarians, farmers, livestock handlers, pet owners, and food handlers. Although the mode of infection in most reported cases is not clear, most cases are thought to result from inadvertent, direct inoculation of organisms or from upper respiratory tract colonization with subsequent dissemination via the lymphatics or, hematogenously, to the target organs, causing skin and soft-tissue infections, bone and joint infections, pneumonia, meningitis, endocarditis, and septicemia [2, 3, 6].

Some cases of P. multocida peritoneal dialysis-associated peritonitis [7] and spontaneous bacterial peritonitis in patients with cirrhosis [8] have been reported in the literature. Septicemia is an uncommon complication of Pasteurella infection; it has a mortality rate of ~30% [9] and is more severe in patients with cirrhosis [10]. Liver dysfunction has been reported to be a major factor associated with P. multocida bacteremia because of the impaired reticuloendothelial function in patients with cirrhosis [11, 12].

Although, to our knowledge, there are no reported cases of P. multocida outbreaks among visitors to petting zoos reported in the literature, we believe that this microorganism should not be forgotten. Immunocompromised patients and patients with cirrhosis should be alerted about the potential risk related to pet animal contact, even when animals are in apparent good health.

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