PASTEURELLA MULTOCIDA INFECTION IN A DOG BITE WOUND

(A Case Report)

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Introduction

P*asteurella multocida* is an uncommon human pathogen encountered in wounds caused by animal bites [1,2]. The presentation usually is that of a rapidly spreading cellulitis around the site of the wound. Despite the prevalence of the organ-

ism in the oropharynx of many animals, it is a rarely reported bacterial isolate. This case is presented to emphasize the occurrence of *P. multocida*, its clinical presentation, laboratory diagnosis and the relative ease of the management of infection.

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CASE REPORT

A 60-year-old man, was bitten by a domestic dog. The wound was a 4 cm long laceration extending from the base of the index finger to over the thenar eminence. The wound was cleaned and sutured. The patient was treated with co-trimoxazole and advised to keep the pet dog under observation. However, pus accumulated in the wound and rapidly-spreading cellulitis set in. A direct smear of the pus revealed Gram negative, small, ovoid, coccobacilli. The pus was cultured on blood agar. After 24 hours incubation, colonies obtained were small (0.5 mm - 1.0 mm in diameter), round and smooth, showing characteristic brown discoloration in a zone surrounding the colony. The organism was non-motile, fermented glucose, mannitol and sucrose, was catalase and oxidase positive, indole producer and had a weak hydrogen sulphide reaction. These features proved the organism to be *P. multocida*. Antibiotic sensitivity testing showed susceptibility to penicillins, cephalosporins, aminoglycosides, and erythromycin.

Subsequently the patient was treated with parenteral sodium penicillin. The cellulitis subsided rapidly and the wound dried permitting successful skin grafting.

Discussion

Of the 6 species that constitute the genus *Pasteurella*, only *P. multocida* is of medical importance. *P. multocida* (from the latin *multus* - "many"; *caedere* - "to kill", that is to kill many animals) causes bite-associated infections in humans, cats, and dogs [2]. It is found in a wide variety of animals and its main habitat is the oropharynx. It is one of the most common organism in wounds inflicted by bites from cats and dogs [3]. *P. multocida* infections in humans have been reported with increasing frequency during the last 15 years and the majority have been associated with animal bite wound infections [4]. Although most cases are not serious, a small proportion of the patients have fairly severe infection characterized by considerable cellulitis, a prolonged course, slow healing and a tendency to underlying bone necrosis. The local tissue necrosis may leave the patient with an ugly scar [5]. In cases unrelated to animal bites, infection of the respiratory tract predominates [6]. Less frequently encountered infections caused by *P. multocida* include septicaemia [7], meningitis, otitis, pyogenic arthritis, brain abscess, pyelonephritis, endocarditis and peritonitis [4]. In infections of the respiratory tract bronchitis and bron-

chiectasis predominate with occasional cases of empyema and lung abscess [8].

P. multocida should be suspected when a gram negative coccobacillus that grows on blood agar but not on MacConkey agar is recovered from a wound caused by an animal bite. The bacillus ferments glucose, mannitol and sucrose, is non-motile, catalase and oxidase positive, indole producer, and produces a weak hydrogen sulphide reaction [9]. Our isolate had a typical biochemical test pattern.

The bacteria are susceptible in vitro to penicillin, erythromycin, tetracycline, and cephalosporins. In vivo there is a rapid response to injectable penicillins [3]. However, if not treated promptly, the ensuing cellulitis and tissue necrosis may necessitate skin grafting [5]. Our case illustrated some of the complications possible in wound infection by *P. multocida*.

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