รายงานผู้ป่วย

Pasteurella multocida septicemia in a patient with heavy alcohol abuse.

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A 66 - year - old man who had a history of alcoholism was presented with watery diarrhea. During hospitalization he developed septic shock due to Pasteurella multocida which is rare in the absence of known animal exposure. Most patients are immunocompromised, especially cirrhotic patients. Therefore,P.multocida infection should be considered in patients who have history of animal exposure, and it should be included in the differential diagnosis of bacteremia in patients with chronic liver diseases.

Key word: *Pasteurella multocida septicemia.*

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ธีระพงษ์ ตัณฑวิเชียร. การติดเชื้อรุนแรง Pasteurella multocida ในผู้ป่วยติดสุราเรื้อรัง. จุฬาลงกรณ์เวชสาร 2538 พฤศจิกายน;39(11): 833-837

รายงานผู้ป่วยชายไทย อายุ 66 ปี มีประวัติดื่มสุราจัดเป็นเวลานาน มาโรงพยาบาลด้วยอาการท้องเสียถ่ายเป็นน้ำ ภายหลังรับไว้รักษาในโรงพยาบาล ผู้ป่วยมีภาวะเส็พติคีเมียและมีภาวะช็อคจากการติดเชื้อ ปาสเตอรเร็ลลา มอลโตไซดา ในกระแสโลหิตโดยที่ไม่มีประวัติสัมผัสกับสัตว์เลี้ยงชัดเจน จากรายงานต่าง ๆ พบว่า การติดเชื้อปาสเตอรเร็ลลา มอลโตไซดา ในกระแสโลหิตมักพบในผู้ป่วยที่มีภูมิคุ้มกันบกพร่องจากสาเหตุต่างๆ โดยเฉพาะผู้ป่วยที่มีภาวะตับแข็งและผู้ป่วยส่วนใหญ่มักมีประวัติถูกสัตว์กัดหรือสัมผัสกับสัตว์ โดยเฉพาะแมวและสุนัข

Bacteremia associated with *Pasteurella multocida* infections probably occurs more frequently than is commonly appreciated. In humans, *Pasteurella* infection is usually caused animal bites. However, it may occur following exposure to animals without any obvious history of bites. Presumably it is obtained through scratches. It has also been reported in the absence of animal exposure. This case report describes a patient who developed septic shock due to *P. multocida* in the absence of known animal exposure but who was afflicted with heavy alcohol abuse.

Case report

A 66-year-old man entered Chulalongkorn University Hospital after three -days of watery diarrhea. He had fatique and drowsiness but no fever. The patient's past medical history was remarkable except for a laparotomy for a peptic ulcer 10 years earlier and a cholecystectomy 4 years earlier. There was also a 30-year history of alcoholism, however, liver cirrhosis was not noted. There was no history of animal exposure (no pets in his house).

Physical examination revealed a temperature of 38.8°C, a blood pressure of 90/60 mmHg, a pulse rate of 120/min and a respiratory rate of 26/min. The patient appeared pale,weak and drowsy. Abdominal examination showed hepatomegaly. No signs of chronic liver disease were noted.

Laboratory study results included a WBC of 18,400/cumm with left shift and a bicarbonate of 25 mg/dl. Liver function tests showed total bilirubin of 1.5 mg/dl, alkaline phosphatase of 474 mg/dl, aspartate transaminase (SGOT) of 45 unit/dl, alanine transaminase (SGPT) of 34 unit/dl and serum albumin of 15 mg/dl. Results of stool and urine examinations were essentially normal. A chest X-ray revealed interstitial infiltration of both upper lungs. Abdominal ultrasonograph showed only a fatty liver. Three sets of blood cultures were drawn upon admission. Antibiotic treatment was begun with penicillin (1 millon units intravenously every 4 hours) and gentamicin (240 mg intravenously every 24 hours)

During the following 12 hours there was haemodynamic deterioration with increasing breathlessness, and a tachycardia and hypotension (70/50 mmHg). The antibiotic regimen was changed to intravenous cefotaxime (1 gm every 6 hours). Circulatory support with intravenous dopamine was instituted.

Over the following 5 days the patient did not improve and he died on the sixth day after hospitalization. The admission hemocultures revealed *Pasteurella multocida* on the last day of hospitalization. It was susceptible to penicillin, chloramphenical, gentamicin and third generation cephalosporins.

Discussion

Pasteurella multocida, a small, non-motile, non-sporeforming, gram-negative coccobacillus, is part of the normal oral flora of many animals such as cats(70-90%), dogs (50-60%) and others, including man.[1] It can cause haemorrhagic septicemia in animals. It also is major pathogen in infections resulting from animal bites.[2,3] Infections following animal exposure, in the absence of bites or scratches, probably stems from contact with secretions of

the animal. It has frequently been reported in the absence of animal exposure (16.3%) as in our case.[1,4-6] Little is known about the epidemiology of human infection from this organism when there is no animal contact. There is a hypothesis that *P. multocida* may be part of the commensal human bacterial flora in the upper respiratory tract of people whose professions expose them to animals[1,5] and in patients with chronic pulmonary diseaes.[1,5] In addition, a nosocomial infection has also been described.[7]

Infection by *P. mulocida* usually causes a foci of soft tissue cellulitis following animal exposure. More recently there have been reports of *P. multocida* infection which included bone and joint invlovement, lower respiratory tract infections, peritonitis, infective endocarditis and bacteremia.[1,4,5,8-11] Reports of *P. multocida* bacteremia are relative infrequent. Our fatal case had *P. multocida* bacteremia without any obvious localized focus. In localized *P. multocide* infections in patients, bacteremia were identified in 80% of cases which were most often intraabdominal, meningitis, pneumonia, wound infection or arthritis.[1,4,9,12,13] Our patient had no localized focus of infection, no history of animal exposure (no pets in his house), however, he had a liver disease due to extended alcoholism. In the literature, regardless of a history of animal exposure, most patients with *P. multocida* bacteremia are immunocompromised hosts due to liver dysfunction, including cirrhosis, of any etiology or, less commonly, with malignancy (hematologic malignancy, solid tumor) and chemotherapy.[1,4,12,14-16] The higher sysceptibility to infection with this organism in cases of cirrhosis is thought to result from impairment of the reticuloendothelial system and altered intrahepatic circulation. However, *P. multocida* bacteremia can also occur in previously healthy people[1,4,17]

Penicillin is the drug of choice for *P. multocide* infections[1] Susceptibility testing of isolates should be performed in serious infections because penicillin-resistance strains have been described in a few human cases and animal isolates.[18,19] Since infections caused by *P. multocida* may mimic symptoms of other unrelated diseases, the clinician may face difficulties in identifying the etiologic agent unless the organism itself is isolated. This is especially true if there is no history of animal bites or animal contact. *P. multocida* infections are, therefore, not infrequently treated with inappropriate antibiotics. Nevertheless, the diagnosis may be delayed or overlooked when gram negative bipolar straining bacilli are misinterpreted or incorrectly identified.[1] The mortality rate due to *P. multocida* bacteremia infection is about 30 % among cases with liver dysfunction.[4] Athough our patient was treated with intravenous cefotaxime (1 gm every 6 hours), he died on day 6 of hospitalization. The nature of underlying diseases seems to have an important role in the outcome.[4]

Finally, *P. multocida* infection should be considered in patients who have a history of animal exposure, and also should be considered as possible etiologic agent of bacteremia in patients with hepatic cirrhosis or severe liver disease, with or without a history of exposure to animals.

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