Shigellosis, although having become rare in recent years, continues to be an important public health problem in developed countries, since communication in the world village has become more frequent. In addition, this disease is difficult to be prevented because only a small number of bacteria are required to cause infection, and it has exhibited steady trends towards multiple drug resistance. This report describes a 7-month-old female infant with Shigella flexneri sepsis presenting initially with a high fever, watery diarrhea, and dehydration. She was successfully treated with ceftriaxone for 7 days. This case illustrates that Shigella should be included in the differential diagnosis of sepsis associated with diarrhea particularly in young infants traveling to or living in an endemic area. The choice of antimicrobial therapy and the optimal duration for treatment should be carefully evaluated because of the emergence of multidrug-resistant Shigella. (Chang Gung Med J 2003;26:611-4)

Key words: Shigella, sepsis.

From the Department of Pediatrics, and Department of Clinical Pathology, Chang Gung Children's Hospital, Taipei.
Received: Jul. 8, 2002; Accepted: Jan. 10, 2003
Address for reprints: Dr. Kuei-Wen Chang, Department of Pediatrics, Chang Gung Children's Hospital. 5-7, Fushing Street, Gueishan Shiang, Taoyuan, Taiwan 333, R.O.C. Tel.: 886-3-3281200 ext. 8224; Fax: 886-3-3288957; E-mail: changkw@cgmh.org.tw
A stool as well as blood culture, taken on admission, yielded *Shigella flexneri*. The isolate was resistant to ampicillin and trimethoprim-sulphamethoxazole, while it was sensitive to gentamicin and ceftriaxone. She received intravenous fluid rehydration and 75 mg/kg/day intravenous ceftriaxone for a total of 7 days. The fever subsided on day 2. She was discharged in a stable condition 9 days after admission.

**DISCUSSION**

Infection with *Shigella* is generally considered to be confined to the gastrointestinal tract. Invasion of the bloodstream occurs in only 0.4% to 7.3% of patients and has been thought to be a rare event if there are no coexisting risk factors such as malnutrition or young age. *(2-4)* *Shigella* bacteremia is mostly caused by *S. flexneri*, *(3,4)* which has been reported to be more virulent than other *Shigella* species, and it is the most commonly isolated species in the developing world. *(3,4)* Young age and malnutrition are 2 major factors associated with *Shigella* bacteremia. *Shigella* bacteremia might occur more frequently and have a higher case fatality rate in malnourished children. *(3-4)* The pathophysiology of *Shigella* bacteremia remains unclear. In children with compromised metabolic reserves, *Shigella* enterocolitis may lead to a net exudative loss of immunoglobulins, complement, and other plasma proteins required for lysis and opsonization of invading bacilli, and this may pave the way for overwhelming invasion to occur. *(5)* In our case, the young age appeared to be the only risk factor predisposing her to sepsis.

Because of the higher prevalence of bacteremia among severely ill and malnourished patients with shigellosis, presumptive management should include a blood culture, institution of parenteral antimicrobial agents, and maintenance of the intravascular volume by the administration of fluids or blood as required. *(5,3)* Some clinical features appear to be useful in predicting a poor prognosis: afebrility, greater than 10% dehydration, malnutrition, a low serum albumin level, infection with a resistant strain, leukopenia, prolonged and protracted diarrhea, and persistent bloody stools. *(5)* None of these unfavorable factors except dehydration was observed in our patient, and the treatment was successful.

It has been shown that appropriate antimicrobial therapy for shigellosis shortens the duration of the fever and diarrhea and decreases the shedding of the organism from the stool, but no report has mentioned treatment for shigellosis bacteremia. *(6)* However, the choice of antimicrobial therapy is hampered because of the emergence of multidrug-resistant *Shigella* here in Taiwan as well as in many other parts of the world. *(6-8)* The efficacy of various antibiotics as well as the optimal duration of therapy have been carefully evaluated. *(8)* Most controlled studies have suggested 5 days of treatment, although shorter courses of therapy have also been explored. *(6-8)* In areas where drug resistance of *Shigella* has proven to be a problem, administration of ceftriaxone for 5 days should be safe and has been shown to be highly effective in the treatment of severe shigellosis in children. *(9)*

The present case illustrates that *Shigella* infection should be considered in the differential diagnosis of sepsis associated with a diarrheal disease, especially in very young or malnourished patients who have traveled to or lived in an endemic area. Blood as well as stool cultures should be taken. An early and precise diagnosis is of prime importance because appropriate antibiotics in addition to supportive care can be life saving for such patients.

**REFERENCES**


嬰兒志賀氏菌菌血症

顏如貝 張魁文 吳竹蘭郭安靜 蘇玲慧

由於公共衛生的進步，志賀氏菌感染近年來雖然減少，但由於世界交通的頻繁，此病仍為重要的公共衛生的課題之一。其重要性在於志賀氏菌感染只需極少量菌量就會致病，而且多重抗藥性也愈來愈常見。此菌感染主要以病徵表現，罕見腸道外感染。在此我們報告一位7個月大嬰兒的志賀氏菌菌血症，臨床上以高燒及腹瀉為主要表現。實驗室檢查糞便及血液均培養出弗雷克斯志賀氏菌。病患在接受7天的抗生素治療後，痊癒出院。志賀氏菌菌血症應包含在高燒及腹瀉的鑑別診斷中，特別是嬰兒有明顯旅行史而且呈現急性病容者。(長庚醫訊2003;26:611-4)

關鍵字：志賀氏菌，菌血症。