Case report

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Invasive shigellosis in MSM

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Abstract

Shigella flexneri is an emerging pathogen in men who have sex with men; recent outbreaks related to sexual practices have been noted in this population in the UK and other developed countries. While majority of cases of Shigellosis present with gastroenteritis, some vulnerable patients with underlying immunosuppression can get complications like bacteraemia and may present atypically as an acute surgical emergency. This case report highlights such a case of *S. flexneri* bacteraemia in men who have sex with men.

Keywords

Shigella, MSM, HIV, diagnosis, antibiotic, treatment

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Presentation

A 43-year-old man of Colombian origin and a resident in United Kingdom presented to Casualty with a three-day history of constipation associated with intermittent severe abdominal pain, nausea and rectal bleeding. He had fever and rigors. He was admitted; on clinical examination he looked unwell, febrile (temperature 39°C), vital parameters were stable and abdominal examination revealed a slightly distended abdomen with generalised tenderness and guarding, there was no hepatosplenomegaly, bowel sounds were present. He was investigated for possible bowel perforation and sepsis. He was started on broad spectrum antibiotics and blood cultures were taken. He had no ill contacts and had travelled to Spain about a month prior to admission and had been well following his return. Of note in his medical history, he was a man who had sex with men, was HIV positive, well controlled on antiretroviral drugs with CD4 406 (21%) and viral load <40 copies/ml; and had acquired hepatitis C infection within the past year for which he was not yet being treated. He had unprotected anal intercourse regularly with his male partner. He denied having other sexual partners or using recreational drugs for at least a year prior to this hospital admission. He was transferred to HIV tertiary centre for further medical management.

Investigations

Complete blood count showed an elevated white cell count of 13.8×10^9/L, platelet count 444×10^9/L and C-reactive protein (CRP) 25 mg/L. Renal function, liver function and coagulation times were all within normal limits. Computerised tomogram of the abdomen with contrast showed free fluid within the pelvis and evidence of colitis with no bowel perforation.

His sexual screen, rectal and throat swabs for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* and syphilis serology, were negative. *Treponema pallidum* polymerase chain reaction (PCR) was not done.

Shigella flexneri serotype 2 a, sensitive to ceftriaxone, azithromycin, ciprofloxacin was isolated from two sets of blood cultures as well as stool cultures.

Treatment

He was treated with intravenous ceftriaxone for four days and responded symptomatically, became afebrile and diarrhoea settled after 48 h. CRP (<5) and white cell count improved (6.0×10^9/L). He was subsequently changed to oral azithromycin to complete 10 days of antimicrobial therapy.

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Discussion

S. flexneri is a known cause of infectious diarrhoea in men who have sex with men (MSM) population, with outbreaks reported across UK, rest of Europe, USA and Australia.[1–6] While a vast majority of cases have gastroenteritis, reports of bacteraemia are rare. A large study from South Africa reported *S. flexneri* 2a as the most common serotype causing invasive shigellosis including bacteraemia. There was a high incidence of multidrug resistance (41%), and HIV confection was associated with higher mortality.[7] HIV-infected MSM are more likely to have an increased period of shedding[4] and therefore increase onward transmission.

Between 1 January 2004 and 31 August 2014, 16,562 *Shigella* species isolates were referred from England and Wales to the Gastrointestinal Bacteria Reference Unit (GBRU), Public Health England, Colindale. *S. flexneri* accounted for 6193 (37%) of the isolates (2406 had documented history of travel) and 1884 (30%) belonged to serogroup 2a. While a vast majority of isolates were cultures from faeces, 50 (0.8%) *S. flexneri bacteraemias* were noted. These were predominantly seen in males (33) and 15 were *S. flexneri* serotype 2a of which 6 were related to foreign travel. Shigella bacteraemia is associated with significant morbidity (acute renal failure, overwhelming gram negative sepsis and rarely DIC).[8] In a study of systemic Shigellosis in South Africa, HIV-infected patients were substantially more likely to die than HIV-uninfected individuals (29 of 78 versus 5 of 40 fatal cases, respectively).[9] It is important that appropriate microbiological specimens are taken in patients presenting to genitourinary clinics or Casualty with appropriate risk factors, prior to administration of antibiotics as the accurate diagnosis has a direct impact on both medical management of the patient and public health actions. Culture from a stool sample gives a better yield than culture from a rectal swab.[10] Empirical antibiotic is warranted in ill patients with diarrhoea requiring hospitalisation, immunocompromised patients, food handlers and health care workers. Empirical antibiotic of choice in uncomplicated bacillary dysentery is oral ciprofloxacin for three days.[11,12] Alternative oral agents used in uncomplicated shigellosis include azithromycin and cefixime.[12] Intravenous ceftriaxone is preferred in invasive infections like bacteraemias and severely unwell patients. Treatment should be tailored according to antimicrobial susceptibility results as increasing azithromycin resistance is well documented in *S. flexneri* 3a and maybe emerging in serotype 2a.[13] The duration of therapy is usually three to five days; intravenous therapy should be administered to patients with immunosuppression or presence of HIV co-infection.[14–16]

Learning points

Ongoing outbreak of *S. flexneri* in MSM is proving to be difficult to control. Though invasive Shigellosis is rarely seen in UK, it is important to highlight the continuing risk of complications associated with this pathogen in the MSM population.

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