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Case Report

CASE REPORT

A case of reactive arthritis secondary to sexually acquired *Shigella flexneri*

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Abstract

We present the first documented case of reactive arthritis (ReA) secondary to sexually acquired *Shigella flexneri* infection. The case occurred in the context of a recent change in Shigella epidemiology in England where non-travel associated cases are now contributing the majority of diagnoses. Such non-travel associated cases are occurring predominantly in men who have sex with men with high sexual risk taking behaviour reflecting the importance of the sexual history when assessing a man with Shigella infection who has not travelled. We suggest Shigella can be thought of as a cause of sexually acquired ReA and not just a form of enteric ReA. Referral to sexual health services for further management is essential.

INTRODUCTION

We present the first documented case of sexually acquired reactive arthritis (SARA) secondary to *Shigella flexneri* infection. This occurred in a homosexual patient with well-controlled human immunodeficiency virus (HIV) infection.

CASE REPORT

A 40-year-old man with a 6-year history of well-controlled HIV infection (CD4 count 895 cells/uL [normal range: 300–1400 cells/uL], viral load undetectable) was admitted to hospital with a 11-day history of bloody diarrhoea, abdominal pain and flu-like symptoms. His temperature was 37.4°C and he was haemodynamically stable. Blood cultures were negative but stool cultures were positive for *S. flexneri*. Symptoms settled with oral ciprofloxacin and he was discharged.

Four days later he represented with multiple painful joints, inability to weight-bear and red eyes. Examination revealed a large knee effusion and bilateral conjunctivitis. He had a temperature of 39.1 degrees Celsius and was haemodynamically stable. A plain radiograph of the knee was normal and inflammatory markers were raised (C-reactive protein 316 mg/L [normal <10.0 mg/L] and white cell count 15 × 10^9/L [normal 4.00–11.00 × 10^9/L]). Subsequently he was found to be HLA-B27 positive. The knee was aspirated before injection with corticosteroid. Synovial fluid analysis revealed polymorphs with no organisms or crystals, prompting a diagnosis of reactive arthritis (ReA) secondary to *S. flexneri*. Two days later, the patient developed circinate balanitis on the glans of his penis which responded to topical corticosteroid. His conjunctivitis was managed with symptomatic relief only.

Repeat knee aspiration and intra-articular corticosteroid was performed in rheumatology outpatients 2 weeks later and a subsequent 4-week reducing course of oral prednisolone (starting dose of 20 mg) was prescribed for ongoing knee synovitis. His joint symptoms have since improved with the addition of sulphasalazine 2 g daily, chosen because of evidence of

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its efficacy in persistent ReA and previous clinical experience [1]. He remains on sulphasalazine with no recurrence of synovitis when recently reviewed in outpatient clinic and is having ongoing physiotherapy input. He will remain under regular rheumatology follow-up.

Public health were notified during the admission. There was no history of unwell contacts, dining out or foreign travel. However, a sexual history revealed multiple episodes of unprotected anal intercourse with men over the last three months including the sexual act of rimming (oro-anal contact) and heavy involvement in 'chemsex' (sex under the influence of recreational drugs). The patient received 'triple-site' testing (urine, pharyngeal and rectal) for chlamydia and gonorrhoea and screening for blood borne viruses (syphilis and hepatitis C). All of these tests were negative and he was hepatitis B immune. The patient was counselled on safer sexual practices and advised to avoid any type of sexual intercourse until his symptoms had resolved.

Due to ongoing Shigella outbreaks seen in men who have sex with men (MSM) in England, this episode of Shigella-associated ReA is most likely to have been sexually acquired.

DISCUSSION

ReA triggered by a sexually transmitted infection (STI) is referred to as SARA [2]. A recent systematic review reported the incidence of SARA after STI as 3.0–8.1% but there is concern that SARA may be underdiagnosed [3].

Shigella flexneri is well known to cause ReA in susceptible individuals [4–6]. It is commonly spread by food and water and historically acquisition has been associated with travel. However, since 2009 outbreaks of non-travel associated cases of Shigella have occurred amongst MSM in England [7].

Outbreak investigations have revealed most cases amongst white British MSM, many of whom are HIV positive and report high numbers of sexual partners often in association with sex parties and chemsex as seen with our patient [7]. The sexual act of rimming in particular is thought to contribute to the spread of Shigella. Such Shigella epidemics have coincided with increases in diagnoses of other STIs including gonorrhoea, lymphogranuloma venereum and syphilis [7].

Pease *et al*. [8] correctly note that 'whilst the clinical features of a ReA secondary to a STI are indistinguishable from those caused by an enteric organism, the management could potentially be different' [8]. STI screening, partner notification and advice about sexual abstinence until resolution of symptoms are important steps in the management of SARA. We wonder how many rheumatologists are aware that enteric organisms such as Shigella can be sexually acquired?

The sexual history needs to be taken sensitively when assessing a man with Shigella infection who has not travelled to an endemic area. It is important for health professionals in non-genitourinary settings to be aware that MSM are likely to be at risk of other STIs and HIV co-infection and therefore a referral should be made to sexual health services for full screening and partner notification as well as advice on sexual abstinence and avoiding potentially infectious triggers in the future [2].

We can find only one other case of ReA attributable to sexually acquired Shigella infection in the literature and the case occurred in the context of an outbreak of *Shigella sonnei* infection in New South Wales, Australia, predominantly among homosexually active men [9]. We believe our case is the first documented case of *S. flexneri* causing SARA. This may not represent rarity of the condition but rather lack of realisation that Shigella can be sexually acquired.

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CONFLICT OF INTEREST STATEMENT

None.

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ETHICAL APPROVAL

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CONSENT

Patient has given consent for publication.

GUARANTOR

Dr Sarah Kennedy.

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