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Background

*Shigella flexneri* diarrhoea was previously only seen in the UK in association with travel to higher incidence countries. Since 2009 there has been an increase in UK-acquired infections amongst men who have sex with men (MSM)

An outbreak of *Shigella flexneri* amongst MSM was described in North America in 2007 [1, 2]. Outbreaks of *Shigella sonnei* in MSM have also been reported in Australia in 2002 and Germany in 2013 [3,4]. The Australian outbreak was linked to visiting a sex venue in the preceding fortnight [3]. Quinolone resistance has been a growing concern, with 54% *Shigella sonnei* isolates being resistant to Ciprofloxacin in the Germany study [4,5]

HIV infection has been found to be associated with *Shigella* infection in both MSM and heterosexual populations [1,6,7]. In countries with endemic Shigellosis such as South Africa and Zambia HIV infection has been associated with more severe disease manifestations, with HIV positive patients being more likely to require hospitalisation and having a higher risk of mortality from *Shigella* infection [8,9]. However there is little reported on this from developed settings.

In Brighton we experienced a sustained outbreak of *Shigella flexneri* amongst MSM in 2013.

Aims

1. To describe the clinical and microbiological features of *Shigella flexneri* in MSM in Brighton
2. To describe the co-infection rate of other sexually transmitted infections (STIs) in cases of Shigella in MSMs
1. To test the hypothesis that HIV-positive individuals experience more severe disease manifestations due to *Shigella flexneri* infection

Methods

All cases of *Shigella flexneri* identified in the Microbiology laboratory at the Royal Sussex County Hospital in 2013 were included in the study.

A database was set up to collect information about demographics, risk factors, laboratory results, antibiotic sensitivities, outpatient and inpatient management, STI testing, STI/HIV co-infection and clinical outcomes.

All cases were notified to HPA.

Results

Demographics

Total number of cases	24
Median age (yrs)	34 (24-77)
MSM	24 (100%)
HIV positive	13 (54%)*
Travel to Shigella endemic area	1 (4%)

\*Including 1 patient diagnosed with HIV during the episode

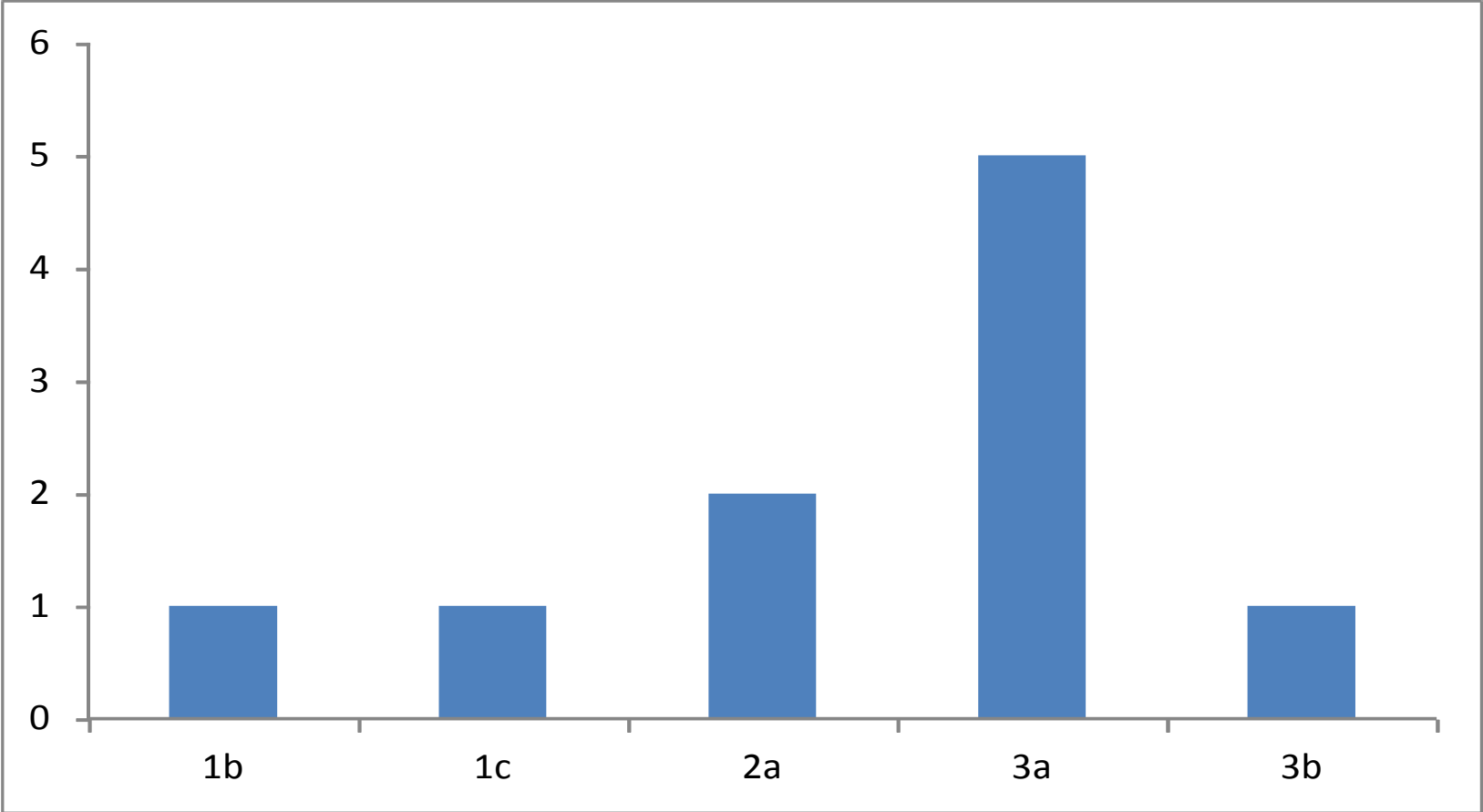
Microbiological features

**Diagnosis:** 23 patients (96%) confirmed on culture  
1 patient (4%) positive on PCR only

**Sensitivities:** No cases of ciprofloxacin resistance

**Serotype:** Confirmed in 10. 3a the most common

Figure 1. Shigella flexneri serotypes identified by frequency



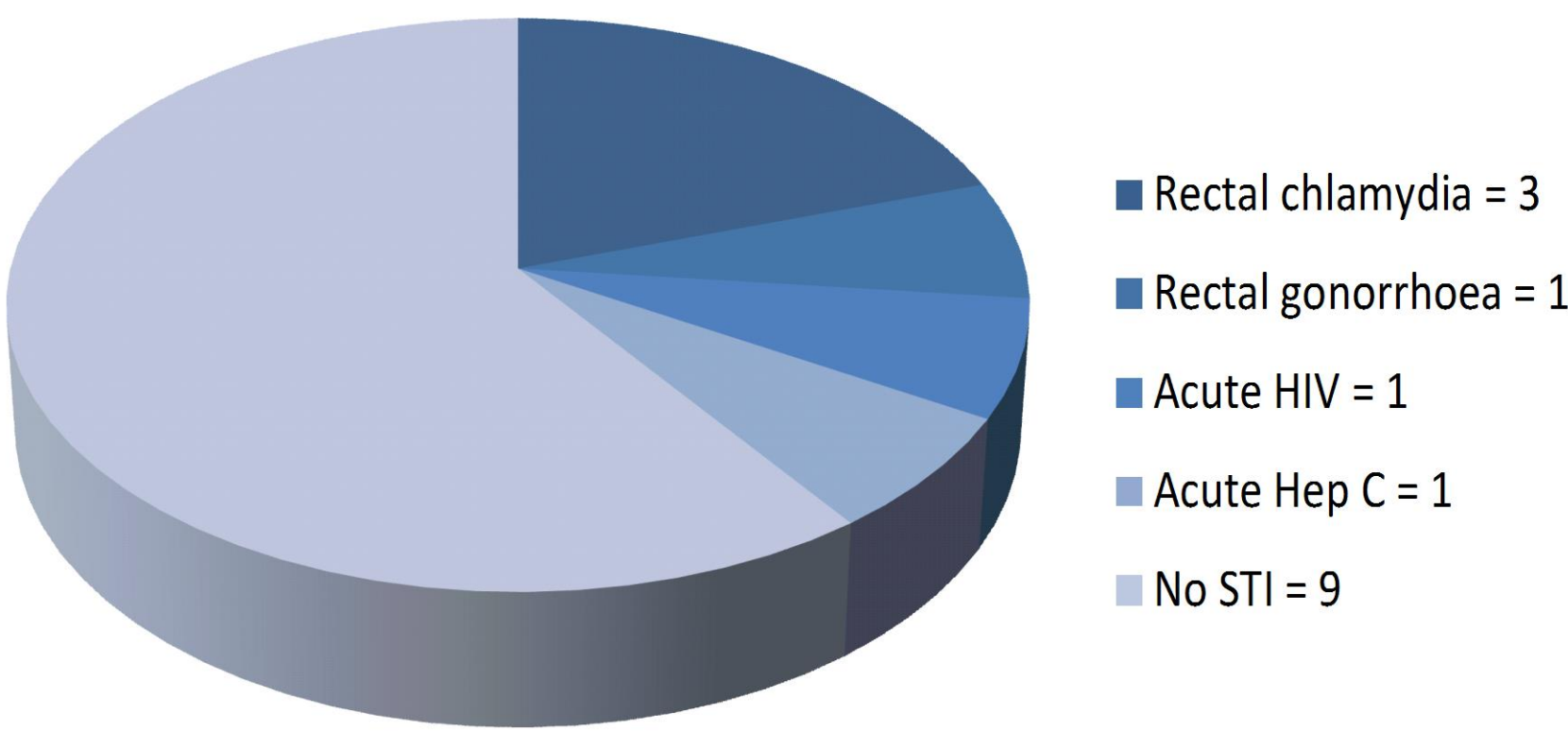
Clinical features

- Diarrhoea present in 100%
- 12 (50%) required hospital admission
- average length of stay 4.3 days
- 3 acute kidney injury (creatinine range 58-737)
- mean CRP of 153 (43-287)
- 1 case of bacteraemia

Concomitant STIs

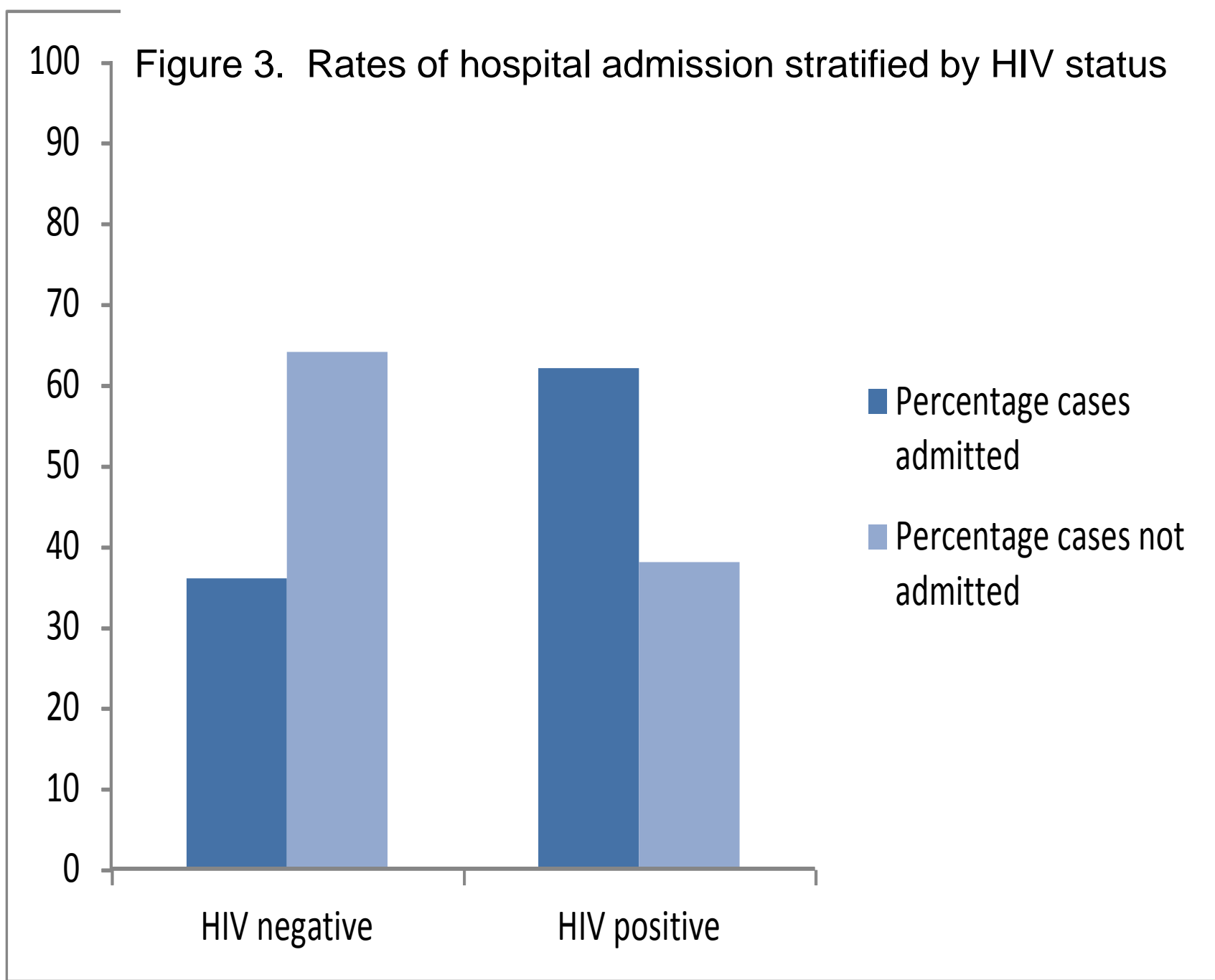
- 15 patients were screened for STIs
- 6 (40%) were found to have a concomitant STI

Figure 2. sexually transmitted infections identified in 15 patients tested



Effect of HIV status

- 8 (67%) who required hospital admission were HIV-positive
- One bacteraemia was seen in an HIV-positive individual
- Odds ratio of hospital admission in HIV-positive v' s HIV-negative  
**OR = 2.8 (p=0.22)**



Key Messages:

- There was a sustained outbreak of *Shigella flexneri* amongst MSM in Brighton in 2013
- Severe symptoms and marked inflammatory response were common in MSM with shigella, especially amongst those who were HIV positive
- No fluoroquinolone resistance was identified in MSM with Shigella
- Co-infection with other STIs was high (40%) in those tested. All individuals with *Shigella flexneri* infection must be tested for STIs including blood borne viruses
- A survey conducted by Public Health England found that most MSM have not heard of Shigella. Education targeted at MSM, especially those attending sex venues, around recognition of symptoms of Shigella, the importance of seeking medical care, as well as good hygiene practices is essential in combating outbreaks

