

SHIGELLA VULVOVAGINITIS IN A THREE—YEAR—OLD CHILD: A CASE REPORT

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SUMMARY

This is a report of a case of vulvovaginitis due to Shigella flexneri in a three-year-old child. This is probably the first documented case of shigella vulvovaginitis in Malaysia. The patient was successfully treated with cotrimoxazole. Extraintestinal infections by Shigella are rare and are briefly reviewed in this article.

INTRODUCTION

Shigellosis is an infection in which the bacteria are usually localised to the alimentary tract and regional lymph nodes. However, extraintestinal infections do occur and the bacteria have been isolated from blood, urine, cerebrospinal fluid, conjunctival sac and sputum.^{1,2,3,4} We report here a case of vulvovaginitis from which *Shigella flexneri* was isolated. To our knowledge, this is the first report of such a case in Malaysia.

CLINIC HISTORY

A three-year-old Chinese girl was brought to the clinic with a complaint of vaginal discharge for two weeks. At the onset of the condition, the

mother did not seek any medical treatment as they were preparing to go on a holiday. Two days later the child developed fever and severe diarrhoea. She was then admitted to a private hospital where she was treated with intravenous fluids and ampicillin. The fever subsided after two days but the diarrhoea persisted with three to four loose, blood-stained, mucoid stools a day. Stool cultures were negative for *Salmonella*, *Shigella* and enteropathogenic *Escherichia coli*. She was discharged after a week and given amoxycillin for another week. The vaginal discharge persisted throughout her stay in the hospital and was described by the mother as greenish pus staining the diapers. The mother did not inform the doctor of the discharge as she was more concerned with the severity of the diarrhoea. There were no urinary symptoms. Both the father and uncle of the patient had diarrhoea at the same time, but it subsided after a week.

On examination in the clinic, the child was afebrile and active. There was some yellowish discharge on the diaper and a small amount of pus was seen at the vagina on separating the labia. No foreign body was detected. After cleaning the perineum with sterile normal saline, a swab was gently inserted into the opening of the vagina and plated directly onto Thayer Martin agar, Sabouraud agar, chocolate agar and blood agar plates. A gram stain and wet smear were also done. A specimen of stool was sent for culture of bacteria and protozoa and rotavirus examination. Urine culture was not done as we could not obtain the specimen.

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Laboratory Investigations

The gram stain of the discharge showed numerous pus cells with a few gram-negative rods. No *Trichomonas* was detected on the wet smear. After overnight incubation, a pure culture of a gram-negative bacillus was obtained from the vaginal swab that was plated on the blood and chocolate agars. No growth was obtained on the Thayer Martin and Sabouraud plates. This organism was identified as a *Shigella* spp. and serotyped as *Shigella flexneri* type 2A using the *Shigella* agglutinating antisera (Wellcome Diagnostics, England). The stool culture was also positive for the same organism. *In vitro* sensitivity test showed that the organism was resistant to ampicillin, chloramphenicol, streptomycin and sulfadiazine but sensitive to cotrimoxazole, gentamicin, kanamycin and trimethoprim.

The patient was then treated with cotrimoxazole. The diarrhoea stopped after one day of treatment while the vaginal discharge cleared after two to three days. Stool and vaginal cultures repeated a week later were negative for *Shigella*.

DISCUSSION

In the last ten years, this laboratory had serotyped a total of 1,784 *Shigella* strains, out of which only five (0.3%) were isolated from specimens other than stool. Three of these were from blood, one each from pus and from a specimen labelled as 'other material'. This is the first time that we have isolated a *Shigella* strain from vaginal discharge.

Extraintestinal infections are relatively rare. In a review by Barrett-Connor and Connor,² *Shigella* has been isolated from cerebrospinal fluids, sputum, blood, conjunctival sacs, synovial fluids and urine. The isolation from vagina was, however, not encountered in their review.

Reports on shigella vulvovaginitis are rare, though it has been recognised as one of the causes of childhood vulvovaginitis.⁵ In a study of 92 cases of prepubescent atrophic vaginitis by Gray and Kotcher,⁶ *Shigella flexneri* accounted for 1.4% of the total. In 1950, McGinness and Telling⁷ reported a case in a seven-year-old girl who also

had associated diarrhoea. Another case of shigella vulvovaginitis was reported by Rajkumar in 1979⁸ in a four-year-old child who had the infection for six months. In his review of literature from the United States, there were only 11 cases described in five reports.

The anastrogenic nature of the vaginal epithelium in childhood favours the proliferation of organisms transferred from the upper respiratory tract, skin or gastrointestinal tract.⁵ This, together with the invasive property of *Shigella* for epithelial cells⁹ may contribute to the complication of vulvovaginitis in children with associated bacillary dysentery. In this case, the vaginal discharge started two days before the diarrhoea. There are two possibilities in the pathogenesis of her illness. She could have started with a non-specific vaginitis which then predisposed her to shigella vulvovaginitis when she contracted bacillary dysentery. Alternatively, she could have started with the shigella vulvovaginitis and then infected herself through the oral route and developed dysentery as the infective dose for *Shigella* is known to be small.¹⁰

The use of antibiotics in the management of shigellosis is effective in reducing the duration of symptoms and the post-infection carriage rate.⁹ Ampicillin is the recommended drug of first choice.⁹ However, the susceptibility patterns of *Shigella* isolated in this country showed that only 13% of the strains were sensitive to ampicillin, while 84% were susceptible to cotrimoxazole.¹¹ Thus one would recommend cotrimoxazole to be the drug of choice in this country for bacillary dysentery prior to sensitivity testing. This patient was given ampicillin followed by amoxycillin for almost two weeks before the organism was isolated and its susceptibility tested. The importance of culture and susceptibility testing is very well illustrated in this case for proper management.

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