

Gonococcal Vulvo-vaginitis in Children: The Zaria Experience

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Summary

Bello CSS. Gonococcal Vulvo-vaginitis in Nigerian Children: The Zaria Experience. *Nigerian Journal of Paediatrics* 1982; 9: 75. Seven (63.6%) out of eleven pre-pubertal girls, aged between 3 and 11 years, seen at the Special Treatment Clinic, Ahmadu Bello University Hospital, Zaria, during a period of 4 years, had proven gonococcal infection. No other member of the two families which agreed to be investigated, was infected. There were three cases of sexual assault and of these, two contacts were examined and investigated. One of these two had proven gonorrhoea. It is suggested that the main predisposing factor to early sexual adventure and subsequent gonococcal infection in this part of the country, is the early exposure of prepubertal girls to young adults through petty trading.

Introduction

VULVO-VAGINITIS due to a variety of causes is not uncommon in children.¹ Because of the escalating incidence of adult gonococcal infections, coupled with global moral decadence, gonococcal aetiology of this infection is gaining prominence and popularity. Although it is often difficult to ascertain the route or mode of infection in children, Osoba and Alausa² in Ibadan, have shown that a number of children are infected from their mothers through intermediary objects. The northern and southern parts of Nigeria have different customs and traditions and these may affect the way certain diseases are transmitted. It was

therefore, deemed necessary to review our experience in order to highlight the mode of transmission of this infection in Northern Nigeria.

Materials and Methods

Patients seen over a period of 4 years (June 1977 to May 1981) at the Special Treatment Clinic, Ahmadu Bello University (ABU) Hospital, Zaria, with definite or suspected recent history of sexual intercourse, and referred mainly from the Out-patients' department of the hospital and from clinics and hospitals in and around Zaria, were reviewed. Standard methods of history-taking, physical examination and investigations of patients with venereal diseases were adopted. Each patient had a minimum of two culture tests done. No speculum was used in the examination of these pre-pubertal girls. Specimens were taken with sterile wire loops from the vulva, vagina

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urethra and rectum after the patient's thighs were voluntarily or forcibly separated widely and the perineum adequately illuminated with angle-poise lamp.

Gonococcal isolation was done on chocolate agar and/or Thayer-Martin medium, depending on availability. All gonococci thus isolated, were confirmed by Gram stain, oxidase test and the Congo red and manganous chloride disc method.³ Sugar fermentation reactions were not done. Sensitivity testing of the isolates was done with oxid multidiscs on chocolate agar using the disc-diffusion method. Microscopy and culture were performed on centrifuged deposits of urine obtained from all the patients. Stool specimens were also collected for parasitological examination.

Family members of each patient and her known contacts, were invited for investigations.

Results

There were eleven patients, aged between 3 and 11 years. The age, mode of presentation and the presenting symptoms of the 11 cases are summarized in Table I. Four of the eleven cases contacted the disease as a result of sexual adventure, while one was sexual assault. Although the source of infection was unknown in two patients, they were most probably also, cases of sexual adventure.

Most of the symptoms were detected by the parents except in patient No. 6, (Table I) where the child on her own accord, complained of a 'wound in her private part'. She was later found to have syphilis as confirmed by a positive VDRL and TPHA. Two of the girls with purported sexual assault had neither symptoms nor infection.

The contact of patient No. 2 (Table I) was a 12-year old primary six boy. He did not know from whom he contracted the infection, but admitted having had sex with other girls during the same week. He knew he had urethral discharge and had treated himself with two capsules of

terramycin bought from a Chemist's shop. The contact for patient No. 3 was unknown. Contact of patient No. 10 was an unmarried young man, aged about 20 years. He denied having had sexual relations with the patient, but agreed to physical examination and investigations. Neither he nor the patient was infected. The sexual adventure cases could not locate or identify their contacts, which presumably, were many.

No positive history of genital infection was obtained from any patient's family. Two families, however, agreed to physical examination and investigations, but no member was found to be infected.

No parasites were recovered from the urine of any of the patients, but gonococci were grown from the urine of three of the seven positive cases. Table II shows the sensitivity pattern of the gonococcal isolates. There were only three cases which were sensitive to penicillin. It is however, noteworthy that all the strains were sensitive to erythromycin.

Discussion

The role of intermediary objects in the transmission of gonococci from parents and other members of typical African extended families, has been highlighted by workers from the southern part of Nigeria.^{2,4} There are, however, two points of special interest in the present study. The first point is the small number of children seen within the four-year period compared to well over two-and-a-half thousand patients seen at the clinic within the same period. The small number of children in the present series may be explained by the fact that cases of vulvo-vaginitis not associated with a positive history of sexual intercourse are usually referred to either the paediatrician or the gynaecologist, or simply that the patients refuse to come to the hospital. Secondly, in contrast to the findings reported by Osoba and Alausa,² from Ibadan, where intermediary objects featured prominently, there was absence of any possible role of intermediary objects in the present

TABLE I

Age, Mode of Presentation and Presenting Symptoms of Gonococcal Infection in 11 Prepubertal Girls

Case No.	Age (years)	Mode of Infection	Presenting Symptoms	Diagnosis
1	4 7/12	Sexual adventure	Vulval soreness	Gonorrhoea
2	3 3/12	Sexual assault (Police Case)	Vaginal discharge and vulval swelling	Gonorrhoea
3	4	Sexual assault	Excessive crying	Uninfected
4	5	Sexual adventure	Vaginal discharge and dysuria	Gonorrhoea
*5	4 5/12	Unknown	Inability to walk properly	Gonorrhoea
6	11	Sexual adventure	Wound on private part	Syphilis (DG negative, VDRL & TPHA positive).
*7	8	Unknown	Severe dysuria and frequent micturition	Gonorrhoea
8	7	Sexual adventure	Vaginal discharge	Gonorrhoea
9	7	Sexual adventure	Vaginal discharge	Gonorrhoea
10	5½	Sexual assault (Police case)	Nil	Uninfected
11	10	Sexual adventure	Rashes on "private part"	Vulval Warts

* Immediate contacts among family members were screened, but none was infected.

TABLE II

Sensitivity Pattern of the Gonococcal Isolates

Case No.	Penicillin 1.5 Units	Ampicillin 2 mcg	Tetracycline 10 mcg	Chloram- phenicol 10 mcg	Erythromycin 10 mcg	Septtrin 25 mcg	Streptomycin 10 mcg
1	S	S	S	S	S	S	S
2	S	S	S	S	S	S	S
4	R	S	S	S	S	S	S
5	R	R	R	S	S	S	R
7	R	R	S	S	S	R	S
8	S	S	S	R	S	S	R
9	R	S	S	S	S	S	S

R = Resistant
S = Sensitive

small series. Furthermore, unlike the findings in Ibadan, most of the girls in the present series, volunteered information about their sexual contacts and therefore, made the screening of every family unnecessary. However, where there was a high index of suspicion about the family being the possible source of infection, as was the case in two families, with whom the girls were sleeping or sharing any clothing and other objects, such families were examined, but none was infected. Although the possibility of non-venereal transmission, especially via inanimate objects should always be borne in mind as stressed by several workers,⁴⁻⁶ its likelihood in northern Nigeria with a rather dry and hot climate which is hostile to gonococcal survival, is likely to be very slim indeed.

Many girls in the northern part of Nigeria, as young as 3 years of age, usually roam the streets and houses selling petty articles, mostly food items. Through this practice, it is very easy for adolescents and/or adult males to lure these prepubertal girls into sexual activity, by presenting such girls with the smallest sum of money or gifts, since it is more difficult or more costly for these men to do the same to mature girls or women. With the high incidence of gonococcal infections in the adults in this part of the country (personal observation), it is therefore surprising that there are so few cases in prepubertal girls. This is due perhaps, to the fact that most of the population being unenlightened would probably resort to local traditional concoctions, or patronize the chemists. An additional reason may be the fact that an average Hausa family puts a high premium on her girls, since they are married early, and thus bring wealth and respect to the family. Therefore, to disclose any venereal infection in such girls would expose the family to ridicule and consequent devaluation of the girls. The belief among some other unenlightened communities in Nigeria that sexual intercourse with a virgin will cure a urethral discharge,⁷

is to my knowledge, neither popular nor practised in Northern Nigeria.

The choice of erythromycin therapy in the present series, was partly due to our cumulative experience with the sensitivity pattern of gonococcal isolates in Zaria and partly because of its safety. Coincidentally, rather than by design, all the seven gonococcal isolates in the present series were sensitive to erythromycin. The isolates were equally sensitive to tetracycline and septrin. However, tetracycline is contra-indicated in growing children and septrin, though safe and effective, was not always available in our pharmacy.

Culture of urine sediments yielded gonococci in 43% of the cases examined. This stresses the importance of this investigation in children with suspected gonococcal vulvo-vaginitis since the urethra is more readily infected than in adults. Although stool microscopy did not reveal any helminthic infestation, it is equally important to carry out this investigation in order to rule out threadworm infestation which is not an uncommon cause of vulvo-vaginitis in childhood.^{2,6}

It is pertinent to emphasize that the global breakdown of traditional moral codes and principles, with resultant increased permissiveness and promiscuity, makes it imperative that sexual contacts should first be ruled out in patients with gonococcal infection, irrespective of age or sex before considering non-sexual modes of infection.

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References

1. Heller RH. Vulvo-vaginitis in a premenarcheal child. *J Pediat* 1969; **74**: 370-7.
2. Osoba AO and Alausa KO. Vulvo-vaginitis in Nigerian children. *Nig J Paediat* 1974; **1**: 26-32.
3. Odugbemi TO, McEntegrat MG and Hafiz S. A simple manganous chloride and congo red disc method for differentiating *Neisseria gonorrhoeae* from *Neisseria meningitidis*. *J Clin Path* 1978; **31**: 936-8.
4. Alausa KO, Sogbetun AO and Montefiore D. Effect of drying on *Neisseria gonorrhoeae* in relation to non-veneral infection in children. *Nig J Paediat* 1977; **4**: 14-8.
5. Singleton AF. An approach to the management of gonorrhoea in paediatric age group. *J Nat Med Assoc* 1981; **73**: 207-18.
6. Cohn A, Stear A and Adler EL. Gonococcal vaginitis: preliminary report on one year's work. *Ven Dis Inform* 1940; **21**: 208-20.
7. Osoba AO. Epidemiology of urethritis in Ibadan. *Brit J Vener Dis* 1972; **48**: 116-20.

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