

GONORRHOEA IN SCHOOL CHILDREN

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In the months of September and October 1960, it was noticed that there was an increase in the number of gonorrhoeal cases seen by doctors in the School Health Clinic, Institute of Health, Singapore. A survey was therefore undertaken to study these cases and to ascertain the probable sources of infection. This article attempts to analyse all the cases presented at the School Health Clinic during the first eleven months of 1960 suspected of having gonococcal infection.

THE SCHOOL HEALTH CLINIC, INSTITUTE OF HEALTH

The School Health Clinic is an outpatient type of service. About 350-400 school children (about three boys to two girls) are seen daily. Most of the cases attend for minor ailments such as, fevers, skin conditions, upper respiratory infections, etc. Acute conditions requiring immediate hospitalization are few. Many of these minor conditions require only a single consultation and treatment.

This is the main School Health Clinic in Singapore; there are three other regional School Health Clinics in the outskirts of the city which are part-time, holding about two to three sessions a week. An average of 100 to 150 patients are seen each session.

MATERIALS AND METHODS

The clinical material consists of 25 school children of both sexes, seen from January to November 1960, ages ranging from 6 to 18 years who had some clinical indication for the attending doctor to suspect gonococcal infection. In all cases, smears were taken and stained for Gram negative diplococci. Some of the children came to the clinic on their own, while the others were brought by their parents.

After a brief history and physical examination of the patient, a smear was made of the discharge from either the vagina, urethra or conjunctivae as the case indicated. The slide was fixed by heat and stained by the Gram's method and examined microscopically. Two or three slides were made from each specimen. Cultures were only done in seven of these cases but none of them were positive.

Patients with positive smears for gonococci were referred to the Social Hygiene Clinic for treatment. All the patients with a positive result were interviewed to obtain an epidemiologic history.

BASIS OF DIAGNOSIS

A case was diagnosed as gonorrhoea from both its clinical as well as its bacteriologic features.

The case usually presented with a history of about one to five days urethral discharge, white or yellow in colour, inflamed prepuce or glans, slight difficulty in micturition, or a feeling of heat on micturition. Occasionally there was a low grade fever, often with enlarged inguinal lymph nodes. In some cases the urine was cloudy.

Bacteriologically, the diagnosis was based only on the positive stained smear and not on culture. Cases regarded as positive, demonstrated fairly large numbers of Gram negative diplococci occupying both the intracellular and extracellular positions in relation to the pus cells.

Confirmation of diagnosis was obtained from the Social Hygiene Clinic at the Middle Road Hospital.

RESULTS

There were 25 cases (15 males and 10 females) who were suspected of gonococcal infection. Smears were taken from three sites namely, urethra, vagina and conjunctivae as shown in TABLE I.

SMEARS	MALES	FEMALES	TOTAL
Urethral	13	—	13
Vaginal	—	9	9
Conjunctival	2	1	3
TOTAL	15	10	25

TABLE I. Number of cases by types of smears and sex.

A breakdown of the cases by the month in the period from February to April and from TABLE II, showed slight increase of cases in September to November.

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	TOTAL
SUSPECTED	1	3	5	2	1	1	—	—	4	4	4	25
POSITIVE	—	—	1	—	—	—	—	—	3	2	—	6

TABLE II. Distribution of cases by the month.

Six cases were positive for Gonococci. All these cases were in males as seen in the next Table.

SEX	Total number of cases examined	Number of positive cases	Percentage of total
MALES	15	6	40%
FEMALES	10	0	0
TOTAL	25	6	24%

TABLE III. Number and Percentage of positive cases.

A study of the age distribution showed that there was a fairly even distribution of suspected cases examined as well as those with positive smears. The youngest child with gonorrhoea was nine years and the oldest sixteen years as illustrated in the figure below.

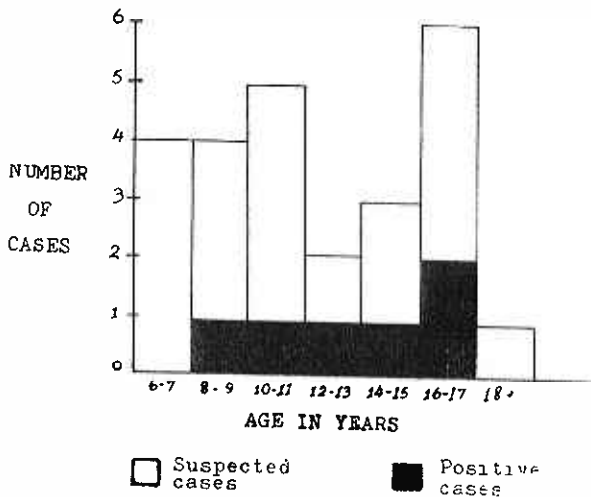


Fig. 1. Number of suspected cases examined and number of positive cases by ages.

All positive cases were sent to the Middle Road Hospital for treatment. Confirmation of diagnosis by microscopic examination of repeated smears was obtained in five out of six cases. Only one case who had an injection by a private practitioner and presented at the Middle Road Hospital after 2-3 days, had a negative smear. Incidentally, this was the only positive case which had a culture done and the result was negative.

These six cases were then carefully interviewed with the main purpose of discovering the probable source of infection. The patient was asked how he himself thought was the probable way in which he contracted the disease. This was difficult as the patients were shy and denied even the remotest possibility of any venereal exposure. Other questions included were, the interval between the first contact with probable source of infection and diagnosis, whether he had any knowledge of venereal diseases before contracting the disease, and whether any one parent knew of his condition before he visited the School Health Clinic. Below is a short summary of each case history.

CASE 1.

Y.C.K. aged 16 lives in a farming village in Upper Changi Road. His 50-year old father has been attending the Middle Road Clinic for frequent urethral discharge for the past 10 years. During the past five years he had two to three times acute retention of urine which was relieved at the General Hospital. Patient thought that he might have contracted the disease from infected towels, toilet paper etc., from the family bathroom or lavatory. He flatly denied any venereal exposure. He had urethral discharge and pain for three days before he attended the clinic. He had no knowledge of Venereal Diseases and both parents knew of his condition.

CASE 2.

C.T.K. aged nine, lives in Radin Mas area and appears to have been under close care of the parents after school hours. The source of infection in this case was the most difficult to ascertain. The parents were quite adamant that the child did not suffer from gonorrhoea and so had him treated by a private practitioner before attending the Middle Road Clinic. Only a surmise could be made that he might have been infected from a public lavatory. He had fever and pain in the penis for one day but no noticeable urethral discharge before seeing the doctor. He had no previous knowledge of venereal diseases.

CASE 3.

K.S.H. aged 14, comes from a notorious area in Geylang. His teacher reported that he was quite a mischievous boy, mixing up with the "worst" types in school. The teacher noticed that for no apparent reason he became more serious and well-behaved from about the time of his attendance at the School Clinic for his present condition and has remained so since. The patient flatly denied any carnal knowledge with women but admitted that he knew quite a lot about sex from books. He thought that he might have contracted the disease from a public swimming pool which he visited a few days before. He had headaches and urethral discharge for three days prior to attending the clinic. His parent knew of his condition.

CASE 4.

T.S.A. aged 16, comes from a notorious area

in Chinatown. During the course of interview it was quite apparent that the patient was holding back information. He denied exposure and thought he contracted the disease probably by urinating in a public lavatory. He picked up knowledge of venereal diseases from his associates in Chinatown. He complained of a swollen penis and urethral discharge for two days before he saw a doctor. Even now his parents do not know that he has had gonorrhoea.

CASE 5.

W.S.W. aged 12 appeared to be a demure type. He stays in the Cairnhill District. He also denied any connection with women but told a story that while urinating in a public lavatory one day, he was seized by a stranger, stripped and had pederasty forcibly committed on him. He had three days of painful micturition and urethral discharge and told his parents about it and was brought to the School Clinic.

CASE 6.

J. aged 11 lives in a squatter area in Tiong Bahru. He again denied venereal exposure but attributed the disease to his riding on a bicycle with a dirty seat on one occasion in which he fell and hurt his genitalia. He had dysuria and swelling of the tip of penis with some discharge for two days before coming to the clinic. He had no previous knowledge of venereal diseases and his parents knew about his condition.

A synopsis of the above case histories is tabulated below.

Case No. and Initials	Age in years	Interval in days between contact to diagnosis	Alleged source of infection and place	Any previous knowledge of Venereal Diseases	Parents' knowledge of patient's disease
1. Y.C.K.	16	3	Infected materials in bathroom. HOME	nil	yes
2. C.T.S.	9	1	Infected materials PUBLIC LAVATORY	nil	yes
3. K.S.H.	14	3	Infected materials PUBLIC SWIMMING POOL	yes	yes
4. T.C.A.	16	2	Infected materials PUBLIC LAVATORY	yes	no
5. W.K.H.	12	3	Sodomised PUBLIC LAVATORY	nil	yes
6. J.	11	2	Infected bike seat	nil	yes

DISCUSSION AND SUMMARY

An attempt was made to study the gonorrhoeal cases in school children that presented at the School Health Centre.

The smear as a basis of diagnosis has been given up by a few authorities in routine work especially in females on the grounds that positive cases were often missed. The method of culture has been universally recognized as a more reliable one. Cultures for gonococci were done only in a very few cases here, owing to the lack of adequate facilities in the clinic.

All the six positive cases were males, although the number of female cases presenting with vaginal or urethral discharge was not far behind those of the male cases (Table III). One reason suggested is that there are many more common infections of the female genitourinary tract like trichomonas, *B. coli*, staphylococcus etc. than those of the male genitourinary tract.

Sources of gonococcal infection are generally speaking of venereal origin. But in school children if we consider only the cases below the puberty age (i.e. 14 in this series) unless these were objects of perverts, the sources of infection are probably non-venereal in origin. Infected materials like towels, toilet paper, lavatory seats etc., are often incriminated.

Finally, it might be mentioned in passing, that some knowledge of venereal diseases during the last years of the Secondary School stage could possibly be an aid to the prevention of the disease in school children.

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