

THE INCIDENCE OF *TRICHOMONAS VAGINALIS* INFECTIONS AND THE LENGTH OF ASYMPTOMATIC INFECTIONS AMONG MALE PRISONERS IN A REFORMATORY

—WITH SPECIAL REFERENCE TO A CASE REPORT ON A PATIENT WITH INFECTION PERSISTING FOR MORE THAN ONE THOUSAND DAYS—

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INTRODUCTION

As venereal disease infection rate is high for convicts, there should be many among the minfected by *Trichomonas vaginalis* (abbreviated as T.V. hereafter), which may be regarded as a venereal disease. The accurate number of days of confinement is known so the duration of infection must be at least as long as the period between the day of imprisonment and the inspection day.

From this point of view, we have already examined and reported the T.V. detection rate for male prisoners in jail with the result that 8 out of 191 persons i.e. 4.19% were infected and subclinical infection duration of 664 days at the maximum was observed. The present report is mainly concerned with the studies conducted in order to investigate the duration length of subclinical infection in case of males.

SAMPLES AND METHODS

The first void urines in the morning of convicts of F-Prison in Tokyo were taken into medium sized test tubes and the bottom part of urine was cultured.

The so called Asami culture was used as detection culture medium by gently pouring about 0.5 ml of urine into the bottom part of it with a pipette so that it

would not come in contact with air.

Examinations were made on 1482 persons omitting those who could not be examined, i.e. patients of fairly severe diseases, violent and hostile convicts, those who refused to be examined, etc.. All examinations were done once, per person, by culture method and microscopic examination of urinary sediment was not done. On the second, third and seventh day the fluid at the bottom part of the culture was examined by microscope to observe the presence of T.V., and every two days respectively with blind subculture technique to the third generation was made and examination was done on it microscopically. Similar examinations were conducted at H-Reformatory and K-Medical Reformatory for 108 and 77 persons respectively in order to make comparisons.

RESULTS

From the total of 1667 persons examined, T.V. was detected in 44 persons, and was made up as follows; F-Prison: 43 persons out of 1482, 2.90%, H-Reformatory: 1 out of 108, 0.93%, K-Medical Reformatory: 0% of 77 persons. This is shown on Table 1 which also shows for comparison the results obtained from outpatients of the Department of Urology, Keio-Gijuku Uni-

Table 1. Infection rate of T.V.

	No. Exam.	T.V.(+)	%
F-Prison	1482	43	2.90
H-Reformatory	108	1	0.93
K-Medical Reformatory	77	0	0
Total	1667	44	2.64

Table 2. Distribution with regards to the age for 1482 persons of F-prison

Age	No. Exam.	T.V.(+)	%
20~29	286	6	2.10
30~39	615	11	1.79
40~49	373	12	3.22
50~59	126	9	7.14
over 60	82	5	6.10

Table 3. Age, Number of days from the imprisonment

Case No.	Age	Days(Duration of infection)
1	56	1311
2	64	1204
3	35	1140
4	47	1094
5	41	889
6	39	803
7	50	793
8	28	772
9	46	755
10	50	714
11	27	700
12	41	617
13	28	605
14	45	407
15~23	9 cases	301~400 days
24~27	4 cases	201~300 days
28~32	5 cases	101~200 days
32~44	12 cases	under 100 days

versity Hospital and also the results of the examination made at T-Jail. Table 2 shows the range of infected persons with regards to age for 1482 persons of F-Prison. It can be seen that positivity rate is high for ages over 50.

Table 3 shows for these 44 cases; the number of days from the imprisonment day to the inspection day along with their age. There are 22 cases for which the number of days is over 300 days with the maximum of 1311 days.

DISCUSSION

The duration of infection of T.V. in male urogenital organs has been thought to be comparatively short. It has also been assumed that the urethra is the main location of infection and T.V. is found there only temporarily and does not proliferate.^{4,5)} On the other hand, as the first report of infection of male urogenital region was that of a subclinical infection,^{6,7)} there were some doubts about its pathogenicity.

Up till now, the longest subclinical infection duration time is; experimentally 97 days as reported by Lanceley⁸⁾ and clinically 664 days as reported by Kawamura.¹⁾

In the present investigation, 11 cases of infection duration exceeding 700 days were found. All these cases were subclinical and those who have the possibility of infection within prison through homosexual intercourse has been omitted. Those who were examined are all convicts of repeated offenses for minor crimes and are in fact confined longer than these numbers of days.

But as it is contrary to the law, it was impossible to confirm the actual number of days for each person.

The fact that infection duration of T.V. exceeds 100 days proves that T.V. repeats fission and proliferation *in vivo* and it has the ability to infect others for such a long period after the occurrence of infection. As it can be seen from Table 2 that even when persons over 60 years of age are infected, there seems to be few spontaneous recoveries even if one's sexual potentiality is not at its highest. But the fact that there are many cases for which infection duration is less than 100 days suggests that there are some spontaneous recoveries and the number of cases with long duration time decreases.

The above tendencies were also found in the case of T-Jail, which has already been reported. Comparison of the cases of jail, reformatory, medical reformatory, prison and outpatients of the Department of Urology of Keio-Gijuku University Hospital shows that detection rate at Keio-Gijuku University Hospital is lower than that for

jail, even though the examinations were done for outpatients of the Department of Urology. This may be due to the sexual loose of criminals as compared to ordinary patients. The reason for the low detection rate at reformatory may be because of rare contacts with prostitutes etc., owing to the young age of the confined.

Cases which have been reported of long period infection in males are; Wittington⁹⁾; 91 days, Watt¹⁰⁾; 5 months, Weston¹¹⁾; over 60 days, Sylvestre¹²⁾; 12 months, etc.. In view of these, many people suspected that the prostate, the seminal vesicle, etc. might be infected, reason being there is not enough nutrition in the urethra for such a long survival (Bedoya¹³⁾, Slucki¹⁴⁾).

From animal experiments, Nakano¹⁵⁾ reported that of 69 cases of T.V. inoculation in the prostate of rat, 7 cases were successful and T.V. survived for 6 days at the maximum. Kimura¹⁶⁾ reported a 5 days survival in the seminal vesicle. The author also observed an infection of up to 10 days in the prostate of rat.

But in the case of human infection, it is extremely difficult to tell whether its location is in the prostate or in the seminal vesicle. One can hardly indicate even in human infection experiments, the location of infection. The longest infection experiments, the location of infection. The longest infection duration in the case of such experimental infection is 97 days in the aforementioned case of Lanceley. On the other hand, in clinical cases, there is no method to prove with certainty that there was no reinfection after a spontaneous recovery or that there was no superinfection by another strain, etc.. The author has experienced a case of clinical T.V. infection of chronic prostatitis which lasted for 18 months. The patient stated that he used condoms in sexual life during the whole period but this is not reliable. On this point the results obtained in prison is reliable because of complete isolation from sexual life.

It may be noted that none of the convicts who were found by the present examination to be infected by T.V. has ever complained

of any symptom in the urogenital region.

SUMMARY

1. From urine of 1482 convicts in prison, T.V. was detected from 43 persons by culture method. All these cases were subclinical infections.

2. The longest infection duration period was 1311 days and this is, as far as the author knows, the longest case ever reported in a reliable situation. There were 22 persons with infection duration exceeding 300 days.

3. There is little correlation between T.V. infection duration and patient's age.

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和文抄録

矯正施設収容者における膣トリコモナスの感染頻度と不顕性 感染持続期間について特に1000日以上 of 長期感染例

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1482名の男子受刑者の早朝尿を検査し、43名から膣トリコモナスを培養法により検出した。

最長の感染期間は、1311日であり、22名が300日以上 of 感染持続を示した。