Papers and Originals

Failure to Control Venereal Disease*

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Most people are not interested in the venereal diseases, the chief exceptions being the prurient-minded, who are interested for the wrong reasons. The medical profession has a long, sad history of lack of interest and of willingness, for the most part, to leave this immense human problem to the less gifted and least high-minded of their brethren. All the more reason, then, for me to feel and express my deep gratitude to the Academic Board for the honour they have done my subject and me in asking me to give this lecture.

Whether the distinguished physician whose name is commemorated on this occasion, Dr. Gustav Schorstein, was interested in the venereal diseases I do not know. I quote, however, from his obituary notice in the *London Hospital Gazette* for December 1906¹: "It was to his initiative and energy that the origin of the Public Health Lectures is due. To qualify himself he took the Public Health diploma, and for some years gave the Lectures and Demonstrations in that subject." I feel he would have approved the proposal for this lecture, though not necessarily its practical application.

Whatever the extent of your interest you cannot be unaware that the problem is serious and causing concern. History indicates that when the cause and method of transmission of an infectious disease are known and effective treatment is available it follows shortly that the infection is contained and controlled. It is not so with the venereal diseases. I quote from the Report on the World Social Situation (1967) by the Commission for Social Development of the United Nations Economic and Social Council²: "The revival of the venereal diseases has engendered world-wide concern. It is estimated that there are now in the world 30 million to 50 million cases of venereal syphilis and more than 150 million cases of gonococcal infections."

You will perhaps demand more detailed evidence of failure to control than this sweeping generalization. Accurate data concerning the incidence of these diseases is hard to come by, and most of the reliable evidence comes from the more-developed countries. I propose, therefore, to give some facts and figures regarding England and Wales, where in these islands the main centres of population are found, the United States of America, and, briefly, some other countries.

Syphilis in England and Wales

The figures for cases of syphilis reported from the clinics of England and Wales, some 200 in number, for the years 1940 to 1968³ are shown in Fig. 1. This is not a notifiable disease, and cases treated elsewhere than at the clinics and in the armed Forces are not included. Thus the figures indicate trends and not true incidence. The lower line shows the number of cases of infection of less than one year's duration at the time of diagnosis—that is to say, early infectious syphilis. There were 5,611 cases in 1940. The wartime increase reached its peak (17,675) in 1946, immediately after the war,

FIG. 1.—Syphilis in England and Wales, 1940-68.

and this was followed by an abrupt fall with flattening of the curve in the 1950s, reaching the very low level of 704 cases in 1958. In recent years there has been a moderate rise though with some fluctuations, the figure for 1968 being 1,826.

The upper line shows the figures for all syphilis—that is, both early and late—the amount of late syphilis being the difference between the upper and lower curves. The decline in late syphilis has continued in spite of the expectation, based on the experience of the past, that increase in early syphilis

FIG. 2.—Incidence trends of venereal syphilis in different countries.

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would be followed in 10 or more years by an increase in late manifestations. Whether the upsurge is merely delayed or the decrease is a permanent effect of the superiority of modern treatment and the use of drugs effective against syphilis in the treatment of other diseases remains to be seen.

The figures indicate that syphilis is not a major problem in this country at the present time. In this we differ from many other countries, as shown in Fig. 2.

Infectious Syphilis in 11 Countries

The World Health Organization prepared Fig. 2 to illustrate the increase in infectious syphilis and to show the variations of incidence in 11 countries over the years 1950 to 1963.⁴ Steep rises occur in a number of countries, especially Greece, U.S.A., France, Italy, and Costa Rica. Great Britain is at the bottom of this league. One can only speculate as to the reasons for this, but I will give my views. Syphilis is a less infectious disease than gonorrhoea and has a considerably longer incubation period, allowing time and opportunity for tracing and treating contacts before the disease has spread among promiscuous people. Thus spread is easier to prevent. In this matter it seems likely that our native conservatism has stood us in good stead. When the incidence of venereal disease fell so remarkably in the late 1940s and early 1950s, most other countries decided that the problem no longer existed and dismantled their control organizations. We did not do this—a fact that has proved much to our advantage. The Venereal Disease Service has been in existence since 1916, and with all its shortcomings it is certainly the best in the world. I believe that syphilis can be controlled and that failure in many countries is due to lack of understanding of the problem, lack of adequate resources, and lack of proper application of what resources are available.

Syphilis in the U.S.A., 1950-68

In the United States syphilis and gonorrhoea are notifiable and the numbers of cases are recorded for each fiscal year, which begins on 1 July and ends on 30 June.

The numbers of cases of primary and secondary syphilis reported in the U.S.A. during 1950-68⁵ are indicated in Fig. 3. Cases declined from 32,148 in 1950 to 6,251 in 1957, thereafter rising to 23,250 in 1965. Since then there has been a moderate decline, reaching 20,182 in 1968. The figures at the

FIG. 3.—Cases of primary and secondary syphilis and rates for 100,000 population reported by American State Health Departments 1950-68.

foot of Fig. 3 show the equivalent rates per 100,000 of the population.

There is good reason to suppose that though these diseases are notifiable they are far from fully notified. A recent investigation⁶ covering the period 1 April to 30 June 1968 suggested that of cases treated by private physicians during that period only 12% of the cases of infectious syphilis, 33.1% of the cases of syphilis presumed to be non-infectious, and 10.9% of the cases of gonorrhoea were notified. An estimate of the total cases during that year, based on the assumption that figures for the other three-quarters of the year and for those physicians who did not give information were much the same, is shown in Table I. So much for notification as an instrument of control. It is evidently resisted by doctors and patients and gives misleading information.

TABLE I.—U.S.A. Investigation into Reporting of Cases, 1968

	Infectious Syphilis	Other Syphilis	Gonorrhoea
Cases treated and reported	20,182	78,013	431,380
Cases treated and not reported	55,025	93,931	1,018,201
All cases treated	75,207	171,944	1,449,581

Gonorrhoea

The figures for gonorrhoea in England and Wales from 1940 to 1968⁷ are shown in Fig. 4. Note the postwar peak in 1946, when there were over 47,000 cases, and the sharp fall up

FIG. 4.—Number of cases of gonorrhoea dealt with for the first time in England and Wales from 1940.

to 1950 (about 20,000) followed by a levelling of the curve and a rise since 1954. The total for 1968 was 44,962, which is getting very near to the level of the postwar epidemic. There were 32,595 cases in men and 12,367 cases in women, giving a male : female ratio of 2.7, which does not suggest any notable success in contact tracing.

The cases of gonorrhoea reported in the U.S.A. in the years 1950-68⁵ are shown in Fig. 5. The numbers fell from 303,922 in 1950 to 216,476 in 1957. Since then they have increased every year, to reach 431,380 in 1968. As we have seen, it is likely that the true figures are more than three times as much.

This position with regard to gonorrhoea is world-wide. The disease is said to be from 3 to 15 times more common than syphilis in those countries from which information is available. Some developed countries now indicate that gonorrhoea is the most prevalent communicable disease after influenza and the common cold. Though little reliance can be placed on most of the available data it seems reasonable to suppose that the majority of estimates are well below the true level. It is certain that gonorrhoea has reached epidemic proportions in some areas.

FIG. 5.—Cases of gonorrhoea and rates for 100,000 population reported by American State Health Departments.

Non-gonococcal Urethritis

In the record of failure the condition known as non-gonococcal urethritis, "non-specific" urethritis, or "non-specific" genital infection requires a prominent place. It appears to be an infection and to be transmissible, but the cause of it is unknown. It is recognizable as a clinical entity in men but not in women, so that the returns specify cases only in men. It is often an intractable condition with a tendency to relapse, and in some cases there are crippling effects involving joints, soft tissues, and the uveal tract—manifestations of the syndrome usually called Reiter's disease. Cases of the disease in males reported from the clinics of England and Wales from 1951, when they were first put in a separate category, to 1968 are shown in Fig. 6. In 1951 there were 10,794 cases and in

FIG. 6.—Non-gonococcal urethritis (male) in England and Wales from 1951.

1968 35,721.⁷ It is therefore more common even than gonorrhoea. No figures are available from other countries, where either its existence has been ignored or it has been regarded as a minor and unimportant condition.

It would take much more space than I have at my disposal to discuss in detail the reasons for failure to control venereal disease. Obviously this is more than a medical problem. The diseases have been described as "symptoms of social sickness," and few would quarrel with that statement. Let me enumerate, without attempting a detailed discussion, the circumstances to which increases in these infections have been attributed.

(1) *Increase in World Population.*—The rise was said to be 500 million between 1950 and 1960, and a further increase of 600

million is expected by 1970. In many countries the numbers of the young and sexually active have increased disproportionately.

(2) *Rapid Industrialization—Increase in Urban Population.*—Industrial activity was said to have increased by 50% in some developed countries between 1956 and 1966, and by as much as 200% in some underdeveloped countries during the same period. In Africa and Asia there has been enormous growth of towns and weakening of social control exerted by families and tribal organizations.

(3) Movements of population always result in increase of venereal disease. Immigration to this country, the expansion in shipping trade here and in other maritime countries, international travel, migrating labour groups, and the movements of armed Forces have all contributed to the increase.

(4) *Rejection of Traditional Moral Principles and Codes of Behaviour, especially by Young People.*—In many countries, including this country, reported venereal disease in young people under the age of 20 is as common or more common among females than among males, due in considerable measure, one supposes, to the increased personal and economic freedom permitted to young women and loosening of family ties at an earlier age. As might be expected, some countries, such as the U.S.A., report more venereal disease in the slums of large cities among socially disorganized groups with low economic standards. But it is also true that there are reports of high rates of venereal disease among university students. In developing countries of Africa, for instance, there have been reports of rates of infection as high as 25%.⁸ From Sweden⁹ it was reported that 34% of female patients attending a university students' clinic had gonorrhoea. In this respect we have our own problems, but they are less well documented.

(5) Increase in promiscuity is of course the determining factor, and prostitutes, "good-time" girls, and practising male homosexuals have all played their parts.

(6) As regards syphilis, it has been suggested by the World Health Organization¹ that recent fashions in the use of antibiotics have affected the spread of the disease. Up to about 1955, the production and consumption of penicillin continued to increase and it seemed likely that many people received curative amounts of penicillin during the long incubation period of the disease. After that time the use of penicillin ceased to increase, and from 1955 to 1960 the production and use of broad-spectrum antibiotics more than doubled and have since continued to increase. These remedies are ineffective or less effective against syphilis. The development of resistance to penicillin and some other antibiotics by certain strains of the gonococcus has led to increase in the number of failures of treatment of gonorrhoea. There have been reports¹⁰ of up to 30% of strains of gonococci highly resistant to penicillin in certain areas of the Far East, where it is common practice to give prostitutes regular prophylactic doses of penicillin. In many countries antibiotics can be purchased freely without a physician's prescription.

(7) *Modern Contraceptive Methods.*—The increasing use of oral gestogen pills and intrauterine contraceptive devices has eliminated fear of pregnancy and has led to increase of sexual activity. Mechanical protectives which give some measure of protection against venereal infection are less used than formerly.

(8) *Ignorance.*—Studies in Britain, France, Sweden, and the U.S.A. have shown a remarkable lack of knowledge about venereal disease, especially among young people. This deficiency extends to our own profession. Webster,¹¹ who studied reports on the teaching of venereal disease in medical schools throughout the world, found that lack of adequate instruction was widespread, especially concerning epidemiological methods of controlling the diseases.

Methods of Control

At this stage it may be helpful to discuss briefly the methods of control of venereal disease which are available to us.

(1) Facilities for Diagnosis and Treatment

I have already stressed the value of well-organized and efficient V.D. clinics providing first-class facilities for diagnosis and treatment free of charge and available at convenient hours. Nevertheless, many patients consult their own or other doctors and are treated by them. Under these circumstances standards of medical attention often leave much to be desired.

Microscopical diagnosis is perhaps the exception rather than the rule and treatment is of the "hit or miss" variety. Relief from symptoms is accepted as cure. Nothing is done to deal with sources of infection or with those to whom infection may have been passed. It seems to be a fault in our training that we emphasize the needs of the individual patient, which is good, but to the exclusion of broader issues of the public health. The Department of Health tries to remedy these defects by issuing from time to time memoranda for general practitioners containing detailed advice on the management of patients with these diseases, and talks on V.D. are sometimes included in refresher courses for general practitioners, but to bring about improvement on any considerable scale seems to be an uphill task. This problem is a much bigger one in most other countries than our own.

(2) Contact Tracing

Contacts are of two kinds—those who are sources of infection, whom we will call primary contacts, and those to whom infection may have been passed, usually wives, fiancées, friends, and the like, whom we will call secondary contacts. By persuasion and gentle pressure we usually overcome patients' unwillingness to bring in these secondary contacts, but primary contacts are a very difficult problem. They are often prostitutes or casual acquaintances, and if vision has been clouded by darkness or alcohol patients may not even remember what they look like. Prostitutes, especially those controlled by organizations for commercialized vice, are apt to disappear at the first suggestion that medical treatment may be necessary.

The results of an investigation by Dr. Dunlop¹² some years ago at the Eastern Hospital are given in Table II. Diligent

TABLE II.—Contact Tracing—Gonorrhoea

Study	Dunlop, ¹² Contact Slip Only (100 Patients)		Hare, Lamb, and King, ¹³ Active Contact Tracing (119 Patients)	
	Primary	Secondary	Primary	Secondary
Type of contact ..	6	18	47	23
No. attending ..	6	82	39	82
Percentage attending ..	6	82	39	82

efforts were made to trace contacts of 100 men suffering from gonorrhoea by persuading the patients to seek them out and give them so-called "contact slips" which they can present at the same or any other clinic. Only 6% of the primary contacts were brought under treatment, but the attendance of 18 to 22 secondary contacts was secured. These results are compared with some others obtained near by at the London Hospital in 1967,¹³ after the local authority had appointed two devoted

FIG. 7.—Number of cases of gonorrhoea reported at Whitechapel Clinic.

and efficient women who spend all their time seeking out the potentially infected and persuading them to attend—39% of the primary contacts were brought under treatment.

The first of these "contact tracers" was appointed, with a part-time assistant, in December 1964. A second full-time worker was appointed in 1966.

The numbers of cases of gonorrhoea treated at the London Hospital over a period of years are shown in Fig. 7. The fall in numbers in recent years goes against the national and international trends; this change corresponds closely with the period of intensive contact tracing. It may be asked if other factors are concerned, such as a decline in the popularity of the clinic for some reason or changes in the nature and distribution of the local population. We know of no appreciable change in the local population and, as to popularity, the best index of the popularity of a clinic is the extent to which it attracts women patients. In fact, the numbers of women patients suffering from gonorrhoea have risen from 390 in 1965 to 450 in 1968.¹⁴ It is the men who are fewer in number. One must not conclude too much from a relatively small and isolated study, but may it not be that really efficient contact tracing combined with good facilities for diagnosis and treatment offers the best hope for solution of this problem?

(3) Suppression of Quackery

Quacks and charlatans have always thrived on sufferers and potential sufferers from V.D. because of their abnormal fears and intense desire for secrecy. The Venereal Disease Act of 1917 made it an offence with severe penalties for any unqualified person to give advice about V.D. or for anyone, qualified or unqualified, to advertise his or her willingness to do so. In consequence this aspect of the problem is small in this country, but in other countries it is an important source of failure of treatment and spread of infection.

(4) Tests before Marriage

In some areas of North America serological tests for syphilis are compulsory before marriage. To bring the law into this is probably a mistake, especially as the standards of serological tests vary so greatly and their results are so open to misinterpretation. There is, however, much to be said for full investigation before marriage of those who have suffered from V.D. or who have been promiscuous. Well-judged propaganda might induce many of them to seek advice voluntarily.

(5) Tests during Pregnancy

I need hardly stress the importance of serological testing in pregnancy. It need cause patients no distress, for their blood is submitted to a variety of tests. The adoption of this procedure is the main reason why congenital syphilis has been virtually eliminated in this country. In 1968 only 14 cases of congenital syphilis in the first year of life were diagnosed at the clinics. There was no reported death from this condition. When the precaution was first recommended as a routine procedure it met with a good deal of opposition on the ground that to take such a test was an insult to respectable patients. Unfortunately, we have never been able to persuade the obstetricians that gonorrhoea and "non-specific" genital infection are much more common diseases and take their toll in infantile ophthalmia—there were 35 cases of gonococcal ophthalmia alone reported from the clinics in 1968 and most of the patients are treated in wards not at the clinics—and also in pelvic disease following the trauma of birth in the presence of infection.

(6) Measures Directed to Special Groups

Because some sections of the community have a higher incidence of V.D. than the average there has always been a

tendency to bring special pressure to bear on these groups to get them under medical supervision. Prostitutes, particularly, have at various times in this and other countries been subjected to legal compulsion to undergo investigation. The use of legal compulsion seems to lead to hardship and inequality and certainly has always failed as a method of prevention. In these days many of us would be hard put to it to say where prostitution begins and ends. At the same time there is much to be said for persuading, by suitable propaganda, prostitutes, practising homosexuals, and other promiscuous people to seek voluntary examination and tests at regular intervals. The Brussels Agreement of 1924, whereby many countries undertook to provide and maintain free diagnosis and treatment of V.D. for seamen at all major ports, has done much to limit the spread of venereal disease and to raise standards of venereology throughout the world.

(7) Personal Prophylaxis

This is still a vexed question. As I have already said, the mechanical barriers to conception do provide some measure of defence against infection, but they are less used than formerly. The local application of antiseptics is a discredited method and probably useless. Systemic penicillin, other antibiotics, and sulphonamides have all been used. This kind of suppressive treatment infringes a fundamental principle, "diagnosis before treatment," leads to uncertainty which may be damaging to the patient, may suppress the signs of disease though communicable infection persists, and eliminates any possibility of tracing and treating contacts. Where it is practised freely it leads to decline in clinical standards. I believe it to be unwise and undesirable, though there might be circumstances, such as late pregnancy with the strong probability of incubating syphilis, when one would be driven to use it.

(8) Health Education

I have left this to the last, not because it is inferior in importance but because it is the least-developed method and in many ways highly controversial. Presumably all of us agree that children are entitled to honest factual answers to their questions about sex and that older children and adolescents should be suitably informed whether they ask questions or not. If they are told about the sexual function they should also be told and warned about venereal disease without, however, painting lurid pictures which provoke abnormal fears. It seems generally agreed that parents are the right people to give this information, but also that most of them are unable or unwilling to do so. Who then? School teachers? Health educators? Nurses? Doctors? Or the B.B.C.?

Some local authorities arrange for instruction, some do not. The procedure, the agent, and the material vary from area to area and from school to school. Those who have a religious faith want their children warned against extramarital relations because they are sinful. Some of those who reject religious teaching want their children to believe that such behaviour is antisocial and if indulged in too freely may render unlikely a future lasting and happy union in marriage. Others, and they are a considerable group, do not care how much their children experiment with sex so long as they do not become pregnant or contract venereal disease. Therefore they are to be taught contraception and to choose their partners carefully. Not a very good precaution this last, because no one can establish criteria of safety, and, in any case, if young people have no feeling of responsibility about the sexual act they will soon want to carry their experiments further. Just the giving of factual information will not impose self-discipline nor inspire what some of us still like to call virtue. It is much more likely to stimulate sexual feelings than to aid control. One must reserve judgement about B.B.C. plans until more details are available, but it seems that they are about to fall into this error. So the whole subject is full of confusion and uncer-

tainty. Parental love and care, advice, and example are still of paramount importance, and it is hard to see what can replace them.

Clinical Problems

I have said so much about the epidemiology of these diseases that you may begin to believe that there are no clinical problems. As with most branches of medicine there are plenty of these. As regards *syphilis*, the results of treatment of early cases with penicillin are excellent and there is no evidence of diminishing efficacy. If through previous sensitization the patient is unable to take penicillin the problem is more difficult, but some broad-spectrum antibiotics seem to be fairly effective. The treatment of late cases has seemed satisfactory over the years, though clearly some patients are permanently damaged before treatment is begun. Nevertheless, the results of recent investigations have put some doubts into our minds.

Collart and his colleagues in Paris¹⁵ were able to demonstrate what appeared to be typical *Treponema pallidum* of attenuated virulence in the lymph nodes of patients with late syphilis in whose cases the treponemal immobilization test remained positive in spite of more than adequate treatment. These findings were confirmed by Yobs, Olansky, Rockwell, and Clark¹⁶ in the United States. Lawton Smith and Israel,¹⁷ in Miami, described four cases with signs suggesting late ocular syphilis or neurosyphilis in which what appeared to be *T. pallidum* was found though standard serological tests, and in two cases treponemal immobilization tests, were negative. The organisms were found by fluorescent staining in the cerebrospinal fluid in two cases and in the aqueous humour in the other two. Similar findings were made by Goldman and Girard¹⁸ and at the London Hospital by Wilkinson and his colleagues¹⁹⁻²¹ working with the Whitechapel Clinic and the Institute of Ophthalmology. Smith and his colleagues at Miami²² described two cases of late ocular syphilis from which aqueous humour injected into rabbits produced syphilitic lesions containing *T. pallidum*. Recent information from Miami²³ indicates that there are second thoughts and that some of the structures claimed to be *T. pallidum* were artifacts. Clearly there is much more work to be done, but it seems unlikely that all the claims made in this regard are without foundation.

As regards *gonorrhoea*, cases of uncomplicated infection treated early have an excellent prognosis for prompt and complete recovery. Difficulties and dangers arise from neglect to seek advice and from associated non-gonococcal genital infection. Complications such as pelvic infection in women may lead to acute and recurrent illness, chronic ill-health, and sterility if diagnosis and treatment are delayed. The main trouble with women is that they are so often unaware of infection.

Details of an investigation by Dr. Dunlop²⁴ at the London Hospital are given in Table III. It shows the symptoms of 100 women who attended the venereal disease clinic. They

TABLE III.—Gonorrhoea in Women—Symptoms

Symptoms	Cases	Trichomonal Vaginitis Present
Vaginal discharge	61	24
Dysuria	18	11
Increased frequency	2	
Abdominal pain (salpingitis in 6)	17	13
Vulval soreness, irritation	12	5
"Boils" (Bartholinitis)	3	1
Rectal	3	
Menstrual abnormalities	5	4
Symptomatic patients	70	27
Asymptomatic patients	30	10

attended consecutively and were selected only in respect of the diagnosis. Only 22 presented because of symptoms. On direct questioning it appeared that 30 patients had no symptoms of any kind; the remaining 70 had symptoms which were

slight in most cases and had been ignored or attributed to some minor condition unrelated to venereal disease.

TABLE IV.—*Gonorrhoea in 100 Women—Reasons for Attendance*

Contacts had urethral discharge	69
Contacts unfaithful	5
Routine tests—remand home	4
Symptoms	22

The reasons why these 100 women attended the clinic are shown in Table IV. No fewer than 69 were persuaded to attend only because their consorts were suffering from gonorrhoea.

This fact of lack of awareness is perhaps the greatest barrier to the control of spread of disease. The existence of this danger requires much more emphasis in propaganda to the general public to encourage those who have taken risks to seek advice. Above all, it calls for a much more effective level of knowledge and understanding for members of our own profession, so that patients who complain of symptoms are not sent away with a few antibiotic tablets for the treatment of "cystitis" or tablets of metronidazole for undiagnosed vaginal discharge.

TABLE V.—*Asymptomatic Infectious Cases. Curtis 1961-2, the London Hospital*

Patients at Risk	No.	Gonorrhoea	Trichomoniasis	No Infection
Men (Oct.-Dec. 1961)	225	0	0	225
Women (1961-2)	198	124	23	51

As a corollary to this, Table V gives the results of an investigation by Dr. Curtis²⁵ at the London Hospital some years ago. Men who have taken risks and are anxious often present themselves for examination even though they have no symptoms. The women who do so are comparatively few. In the three months October to December 1961 there were 225 such men and none of them was found to be suffering from infectious disease. To obtain a comparable figure for women attending of their own accord, though without symptoms, it was necessary to take a period of two years, 1961 and 1962. There were 198 such patients, and no fewer than 124 of them were suffering from gonorrhoea; 23 were suffering from trichomonal vaginitis.

I have mentioned the fact that some strains of gonococci are showing a measure of resistance to penicillin and other antibiotics. This is, of course, a problem and likely to become more so. There are, however, plenty of alternative remedies, and the main danger is that drugs may be partially effective, relieving symptoms without producing cure. If the patient co-operates and the doctor conscientiously tests for cure, the fact of failure is soon evident. If not, spread of infection to others is only too likely.

Non-gonococcal or "non-specific" genital infection is, of course, the most intractable of our clinical problems. As I have said, the cause is unknown; the disease is often asymptomatic, especially in women; it is spread by sexual intercourse and responds only moderately well to treatment. It is a cause of recurrent cystitis, chronic prostatitis, pelvic infections in women, and, almost certainly, acute, chronic, and recurrent arthritis and relapsing anterior uveitis.

As is well known, this infection—because infection it almost certainly is—is affected by broad-spectrum antibiotics, but the response to this treatment is uncertain and often more apparent than real. Many patients continue to harbour communicable infection in spite of all treatment. It is the most widespread of the sexually communicable diseases and it seems likely that all promiscuous people contract it sooner or later, though many are unaware of it. It is a widespread cause of ill-health. It may predispose to carcinoma of the cervix uteri, and I suspect that it is the usual cause of so-called

"honeymoon cystitis." Attempts to find the cause have been sporadic and inconclusive, though such a discovery would open the way to the solution of a severe and intractable problem and perhaps pay other dividends such as, for instance, elucidating some of the problems of the causes of rheumatic diseases in general. One cannot help feeling that if it were decided to devote to this investigation a fraction of the resources provided annually for research into the causes of cancer, this particular problem might be solved in a short time.

The Future

Which, then, are the priorities in the search for control? I will review them briefly though not necessarily in the order of importance.

Facilities for Diagnosis and Treatment

I have already praised the system in this country. Nevertheless, it is far from perfect. Ultimately the standard of these facilities depends on the quality of those who work at the clinics. Though things have improved in recent years we have not often succeeded in capturing the imagination and so recruiting the most gifted of our young people. This, however, must be a gradual process. At the present time some clinics are grossly overworked. The standards of diagnosis and treatment applied elsewhere than the clinics require great improvement.

Contact Tracing

This, properly organized and carried out by devoted and capable people, adequate in numbers and directed from the clinics, provides the greatest hope of reducing syphilis and gonorrhoea to small proportions with elimination as the ultimate hope.

Unfortunately there are still venereologists who give no more than lip-service to the difficult procedures which form an essential part of this work. There are local authorities that display no interest and provide no help, and others whose provision is grudging and inadequate. Generous funds are available for such activities as maternity and child welfare because these enlist the interest and sympathy of councillors and ratepayers alike. V.D. does not appeal to tender hearts and sways no votes.

Health Education

I have touched on the difficulties of this subject. It seems to be generally agreed that the general public is entitled to know about things which closely concern them, including the structure and functions of their bodies and, not least, the reproductive function. They are also entitled to know what can go wrong and why. Most people are ignorant about the venereal diseases and in many they provoke abnormal fears. The subject has to be handled with tact and restraint. The sexual urge is very powerful, and all experience indicates that those who are completely immune from temptation are very rare among humankind. Probably no protection has been so strong as firm religious faith sincerely held. But even if we ourselves have religious beliefs it is not our function as physicians to try to convey them to others. At least in discussing the matter with the young we can appeal to their idealism. We can stress that continence before marriage and fidelity in marriage make for stable partnerships. We can put that much-abused word "love" in its true perspective, arguing that the sexual act outside the context of true love is no more than mutual masturbation, often involving the exploitation of a weaker personality. I hope we still believe that the best chance for human happiness is in a stable, loving marriage, with all that it gives to the participants and all it imparts to the next generation.

Medical Education

If you believe what I have been saying you must agree that we medical men and women at all levels of our professional lives have been grievously at fault in disregarding the ignorance and incapacity in our own ranks which have always dogged and retarded this subject. We are the people who should be teaching others, but for the most part we have nothing but ignorance, indifference, and prejudice to impart. First we must educate the educators.

Laboratory Standards

Laboratory tests are, of course, an essential part of any facilities for diagnosis and treatment. They are, however, so important that they merit special mention. Outside certain special centres they have often varied from the indifferent to the downright bad, and in many places they still leave much to be desired. Over the years I have seen patients and their families submitted to untold misery and distress and sometimes damaging treatment because of faulty laboratory tests for venereal diseases or gross failure to interpret and understand the reports of tests. To take one prominent example, the application of the complement-fixation technique to the diagnosis of syphilis by Wassermann and his colleagues in 1907 was a great advance in this subject. Nevertheless, it is possibly true that more injuries have been inflicted on patients under the banner of Wassermann than of any other name under heaven.

Research

Legislation for the establishment of V.D. clinics in this country was introduced following the Report of the Royal Commission on Venereal Diseases in 1916, and the organization of these facilities was for many years in the hands of the local authorities. Study of the report, the legislation, and the various modifications over the years makes it clear that it was assumed from the beginning that we had only to get the patients in for treatment and they would be cured and the problem solved. The fact that treatment was often inadequate and sometimes harmful seems to have occurred to nobody. The outlook has, of course, improved. But the better our methods seem to us the more we need to develop them and submit them to constant scrutiny. We need to know much more about *T. pallidum* and the gonococcus and we need to know and study the cause of "non-specific" genital infection.

At the present time considerable resources are being devoted in the U.S.A. to attempts to grow *T. pallidum* in artificial culture medium and so to produce a vaccine against syphilis. If this proves successful it is likely to create big problems. For instance, to what extent will a vaccine prevent, to whom is it to be given, and when? I can imagine that the offer to vaccinate infants might provoke maternal emotion. If we have and use such a vaccine will it produce positive serological tests for syphilis? And how then are we to interpret the findings of such positive tests in a patient without signs of the disease? These and many more questions will arise, and one might be tempted to consider this work the result of misguided enthusiasm. Nevertheless, it is often true that the side-effects of research prove to be the most valuable, and if

by these means we can come to greater knowledge and understanding of the causative organism of syphilis much will have been achieved.

Conclusion

To my mind the paramount problem is "non-specific" genital infection. In relation to this we stand much where we stood with gonorrhoea 35 years ago. I will not labour the point, but say, in conclusion, what I have no doubt many others are saying in relation to their own special subjects. We have seen considerable resources devoted to projects of potential value to the very few, such as organ transplants. Let us keep a sense of proportion and decide which are the really big medical problems affecting very large numbers of people and crying out for solution. I admit to bias, but I believe that impartial assessment would put the venereal diseases very high on the list.

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