ABSTRACTS

This section of the Journal is published in collaboration with the three abstracting Journals, ABSTRACTS OF WORLD MEDICINE, ABSTRACTS OF WORLD SURGERY, OBSTETRICS, AND GYNAECOLOGY, and OPHTHALMIC LITERATURE, published by the British Medical Association. The abstracts are divided into the following sections: Syphilis (General, Pathology, Therapy); Gonorrhoea (General, Pathology, Therapy); Chemotherapy; Other Venereal Disease Conditions; Public Health; Miscellaneous. After each subsection of abstracts follows a list of articles that have been noted but not abstracted. All subsections will not necessarily be represented in each issue.

SYphilis (General)


The author roundly condemns the use of trial antisyphilitic treatment in cases of habitual abortion, intra-uterine death, and premature labour without definite serological evidence of syphilis. A series of 120 cases was fully investigated. Of 93 cases which had previously received antisyphilitic treatment, only six had positive sera; 87 serologically negative cases received a total of 197 antisyphilitic courses with only nine successful pregnancies ensuing; six serologically positive cases received seventeen courses with three successes. Antisyphilitic treatment may actually be harmful, as in 47 cases abortion occurred within 3 weeks of cessation of antisyphilitic treatment. Citing Malpas and Eastman, the author maintains that continuation of pregnancy after trial antisyphilitic treatment is no more frequent than in untreated cases of habitual abortion. In the six sero-positive cases there was one stillbirth; in the five normal births there was some disturbance of steroid excretion, so that it is doubtful if syphilis was actually the cause of previous abortions. The syphilitic placenta is discussed at some length and the conclusion is reached that the foetus: placenta ratio is of no use in determining whether antisyphilitic treatment should be instituted. Of 2,500 pregnancies in a slum area 44 were associated with a positive Kahn reaction; in 24 the reaction was positive at term. The Kahn test was thus positive in 2 per cent. of the total births. However, of the group of premature births, 9 per cent., and of the stillbirth group 11 per cent., were Kahn-positive. In true serologically positive cases, therefore, the incidence of stillbirth and prematurity is higher and these cases may benefit from antisyphilitic treatment. D. M. Sheppard


In this paper a case of congenital syphilis in one of apparently identical twins is presented. The twins were born at Beth Israel Hospital, New York. They were both male and were born on Aug. 4, 1949. It is not certain that the twins were identical, but evidence in favour of this being so is presented.

Twin A was diagnosed as suffering from congenital syphilis at the age of 9 weeks. The diagnosis was proved by blood and radiological examinations; the spinal-fluid Wassermann and colloidal gold reactions were positive. Twin B was negative to all the tests. Twin A was given 3 mega units penicillin in oil with 2 per cent. aluminium monostearate daily for 10 days and the other twin was given the benefit of the doubt and treated similarly. Both twins have been followed up for 8 months since October, 1949. Neither shows any signs of congenital syphilis, both are gaining weight and developing normally. All tests have been consistently negative in twin B. Twin A at 10 months has negative blood Wassermann, Kahn, and Mazzini reactions, and the syphilitic changes are no longer apparent radiologically.

A number of theories about the pathogenesis of the condition are put forward. H. S. Laird


In an endocrinological survey of patients with interstitial keratitis a low incidence of acne was noted (in 21 of 145 patients). The basal metabolic rate was estimated in 88 patients, of whom six had readings of −26 to −32, 35 of −15 to −25, fifteen of −10 to −14, 25 of −9 to zero, and only seven of +1 to +6. It was considered that there was a definite trend towards the subnormal. Determination of protein-bound iodine was made in 39 patients and again predominantly lower levels than normal were observed; the same applies to estimations of the urinary 17-ketosteroids in 73 patients. Of 22 patients in whom a radio-active iodine tracer study was carried out a low radio-active iodine uptake was observed in some.

Glucose-tolerance curves were plotted in the case of 33 patients, and the curve was regarded as flat in 25, normal in five, and diabetic in three. Of 54 patients subjected to the adrenaline-eosinophil test, in nineteen the decrease in the eosinophil count following the administration of 0·5 ml. of a 1 in 1,000 solution of adrenaline
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was less than 50 per cent. Of the nineteen patients showing abnormal readings eleven were retested 4 hours after receiving an injection of 20 mg. of ACTH, and on this occasion the decrease in the eosinophil count was normal.

Radiological studies of the skull and long bones and determinations of the serum cholesterol, serum sodium, and serum potassium levels revealed no significant abnormalities.

It is suggested that underactivity of the thyroid and pituitary glands and androgenic (adrenocortical and/or gonadal) function may play a part in the pathogenesis of syphilitic interstitial keratitis. R. R. Willecox


Women venereologists of earlier centuries can be regarded as the counterpart of the male quack doctor. From the onset of the syphilis epidemic in the fifteenth century details concerning them are available in official documents and bills. The first accounts deal only with anonymous people, but in the eighteenth century names and fees are revealed. After the discovery of America the spread of the new disease (syphilis) extended the scope of the quacks both male and female. The great increase in quackery was not a little due to the qualified medicus puri, who regarded the treatment of this disease as beneath their dignity. The term "quack" originated in the word Quecksilber, the German for mercury, with which syphilis was originally treated. Everybody, male or female, who learned the technique of its administration in its various forms was guaranteed a livelihood.

In the eighteenth century official complaints seem to have been lodged against methods of treatment used, and some attempt was made at regulating the trade. A Frankfurt journal, however, printed in 1746 an account of a woman who cured the disease swiftly and without harm to the patient, and this article was used twice in the nineteenth century by writers on the subject. At the same period a second woman venereologist from Frankfurt won fame for her treatment, and was referred to in 1896 as a syphilis specialist. In the present century accounts of earlier women venereologists have been discovered in German municipal records. For example, documents of 1499 show that a woman was employed by the Munich authorities, and civic records of Augsburg of 1503 disclose how much was paid per cured case, not only to the public venereologists employed by the Pox Hospital, but also to women who were complete strangers. Research has traced the journeys of some of these women venereologists individually. They remained in a district only so long as their cures were regarded as successful. From the sixteenth century they were to be found in all the large merchant towns of Germany, in Paris, Lyons, Switzerland, Italy, and England, wherever trade prospered and industry flourished or where noblemen came with their retinues and armies or adventurers made camp.

It is questionable, however, whether the women who gave treatment in earlier days deserve the name "veneree-

logist". Some were only nurses and others had additional occupations. In later years, however, it has been discovered that where the treatment of syphilis had been organized and regulated, venereology was their only source of livelihood, and therefore they were really specialists. This was true not only in Germany but also in England, France, and Eastern countries. They remained relatively few in number, but were no new phenomenon arising with the spread of syphilis. They had antecedents in very early days amongst women who treated venereal diseases in both sexes. Galen mentions them, and Hildegard of Bingen gives no mean reference in her medical writings. Records throw no light on why women particularly chose this specialty; we only know that it paid them well. Ruth Hodgkinson


Report of a case of sclerosis of the choroidal vessels and of pigmentary degeneration of the retina in an old case of syphilis.

N. Pagliarani

Theory of Circulatory Disturbance in Tabes. (Theorie der tabischen Kreislaufstorung.) Poos, F. (1951). Nervenarzt, 22, 244. 2 figs, 18 refs.


Isolated Softening of the Nucleus Dentatus in a Syphilitic Subject. (Malacia isolata del nucleo dentato in soggetto luetico.) Beffa, A. della (1951). Cervello, 27, 257. 3 figs, 33 refs.


Gastroduodenal Syphilis. (La sifilide gastroduodena.) CALCHI NOVATI, G., and TENTI, L. (1951). Osped. maggiore, 39, 357. 7 figs, bibl.


ABSTRACTS


SYPHILIS (Pathology)


While using a Wasserman antigen composed of cardiolipin, lecithin, and cholesterol in the proportions of 1 : 5 : 17 (Maltaner formula), it was found that when the antigen was used immediately after dilution of the alcoholic solution with barbiturate buffer pH 7.3, it failed to react with known positive sera. When tested after standing for varying times its reactivity was found to increase during the first 5 to 6 hours and to become constant for about 28 hours, after which it became anticomplementary.

The antigen made with lecithin prepared from beef heart reached its constant level of reactivity after 30 minutes to several hours. When egg lecithin was used, this period was reduced to 5–20 minutes. Slight differences in the rate of ripening were found when antigens made from two different batches of cardiolipin were compared.

When the buffer was added to the alcoholic solution of the components, the time taken to reach a constant level of reactivity was the same as when the alcoholic solution was added to the buffer, but the former antigen was slightly more sensitive.

[The Maltaner formula is incorrectly quoted, and should read cardiolipin 0·0175 per cent., lecithin 0·0875 per cent., cholesterol 0·3 per cent.] A. E. Wilkinson


Serological surveys in Central America have shown that tests using lipoidal antigens, such as the Kahn, Mazzini, and Eagle methods, give a considerably higher level of reactivity than newer tests using cardiolipin antigens (V.D.R.L., Rein-Bossak, and Kline). The Kolmer complement-fixation test gave a similar performance with both lipoidal and cardiolipin antigens.

In a mass survey in Guatemala, the Kahn gave 10·5 per cent. positive and 6·5 per cent. doubtful results, and the Mazzini 10·3 per cent. positive and 15·9 per cent. doubtful. The figures for the tests using cardiolipin antigens showed good agreement among themselves, the various tests giving 4·8–5·3 per cent. positive and 0·6–1·4 per cent. doubtful results. A difference in sensitivity was also found when the Kahn and V.D.R.L. tests were compared in Salvador and Costa Rica, but not in Panama.

No such marked difference in sensitivity was found when these tests were used in the United States. The results obtained in Central America suggest that the use of the Kahn and Mazzini reactions in this area may give rise to a high proportion of non-specific reactions, the cause of which is not yet known. A. E. Wilkinson


The author first describes his efforts to stimulate the formation of antibodies by using the Reiter spirochaete as antigen. He immunized twelve guinea-pigs and fourteen rabbits, which were tested to show no spontaneous Wassermann reaction. Eight days after the last injection their serum was tested for spirochaete antibodies and Wassermann antibodies; the titre of the spirochaete antibodies in the serum was determined by mixing 0·2 ml. diluted serum with 1 drop of a dense spirochaete suspension. Readings were taken with the agglutinoscope after incubation for 2 hours at 37° C.

The results showed that in both guinea-pigs and rabbits spirochaete antibodies were formed. A positive complement-fixation with Wassermann extracts did not occur in the serum of these animals; three did not react to the immunization. Unlike most human sera, spontaneous spirochaete antibodies do not exist in guinea-pigs and rabbits.

The author then tried to demonstrate the existence of spirochaete antibodies in the serum of human syphilitics. The results showed that a titre of 1 in 40 to 1 in 80 occurs in healthy persons (20 tested). Of the five syphilitics tested, the two whose Wassermann reaction had become negative showed the highest titres (1 in 80 to 1 in 160).
A skin test made with a killed Reiter culture showed parallel results. It proved positive in 45 healthy persons, and negative in thirteen out of sixteen persons with syphilis in the second and third stage with a positive serum reaction. Whether the formation of spirochaete antibodies means a favourable prognosis, and whether this runs parallel with the changing of the Wassermann reaction from positive to negative, can only be determined by a more extensive study. 

Margaretha Adams

The Production of Herxheimer Reactions by Injection of Immune Serum in Rabbits with Experimental Syphilis. 


The Nichols strain of Treponema pallidum was used to produce a syphilitic infection in adult male albino rabbits. An inoculum was prepared by adding 20 to 25 ml. physiological saline to two testicular syphilomata and emulsifying in a Waring blender. After being lightly centrifuged the supernatant fluid was shown to contain 34,000,000 spirochaetes per ml.; 0·1 ml. of this fluid was injected intradermally into six to twelve sites on the backs of twelve rabbits, and 1·5 to 2·5 ml. was injected intravenously.

A pool was prepared of serum obtained from several rabbits with untreated syphilis of 8 to 12 weeks' duration, all showing a positive Kahn reaction. A pool of control serum from non-syphilitic rabbits was also prepared.

In 2 to 7 days from the appearance of the skin syphilomata six of the twelve rabbits were given intravenously 70 ml. pooled serum from syphilitic rabbits, and the other six received an equal amount of non-syphilitic serum. Individual syphilomata were excised before the injection of serum, and again 2, 4, 6, and 8 hours afterwards; sections were prepared. Specimens taken from five of the six animals which received syphilitic serum showed a diffuse poly-morphonuclear leucocyte infiltration similar to that observed in the Herxheimer reaction with penicillin. This appeared within 4 hours, but was most marked within 6 to 8 hours. No changes were noted in the specimens taken from the sixth animal of this group, or in those from the six controls.

It is considered that the destruction of spirochaetes is part of the pathogenesis of the Herxheimer reaction, and that this is aided by hypersensitization. Photomicrographs depicting the histological changes are reproduced.

R. R. Willcox

Production of Herxheimer-like Reactions in Rabbits with Spirillum minus Infections by Administration of Penicillin or Immune Serum. 


An acute exacerbation of clinical manifestations resembling the Jarisch–Herxheimer reaction of treated syphilis is occasionally noted 4 to 8 hours after the beginning of treatment in patients with ratbve fever.

From the tails of mice in which a strain of Spirillum minus had been maintained ten to twelve drops of blood were withdrawn and diluted with 1 ml. physiological saline. Three rabbits received 0·1 ml. intradermally and 3 ml. intravenously. Flat, haemorrhagic, ulcerating areas, which rapidly became diffuse, developed 2 to 3 weeks later at the site of inoculation, and from these Sp. minus was isolated. The rabbits were then given intravenous injections of 4,000 units crystalline benzyl penicillin; biopsy specimens were taken before and 2, 4, 6, and 8 hours after the administration of the penicillin. Specimens taken before treatment showed oedema and a marked infiltration of the corium with large mononuclear cells; the adjacent tissue was infiltrated with polymorphonuclear leucocytes. In all three rabbits polymorphonuclear leucocytes infiltrated the lesions, the appearances resembling those of a syphilitic lesion treated with penicillin; this occurred within 4 hours and reached a peak in 6 to 8 hours.

When 0·3 ml. of serum obtained from rabbits with active Sp. minus infections was mixed with 0·1 ml. of cardiac blood of mice infected with Sp. minus, the spirochaetes in the blood became immobile within 15 to 20 min. and disappeared within 30 min., whereas control preparations with normal serum showed motile spirilla for 2 hours.

Four other rabbits were infected with Sp. minus, and 5 days after the appearance of diffuse skin lesions two animals were each given an intravenous injection of 70 ml. serum from rabbits with an untreated Sp. minus infection, and two other rabbits received an equal amount of sterile pooled serum from normal rabbits. Skin lesions were excised from all four animals before the administration of serum and again 4 and 8 hours afterwards. The specimens taken after the serum had been given showed a diffuse polymorphonuclear leucocytic infiltration, such as occurs in syphilitic lesions following penicillin treatment, whereas no such changes were observed in specimens taken before the administration of serum or from those animals receiving normal serum.

It is considered that destruction of Sp. minus, either by penicillin or by antibody, is an important factor in the pathogenesis of this Herxheimer-like reaction.

R. R. Willcox


Contribution to the Problem of the Use of Cardiolipin as Antigen in the Diagnosis of Syphilis. (Ein Beitrag zur Frage der Verwendung des Cardiolipins als Antigen für die Lues-Diagnose.) Klose, R. (1951). ÄrztlicheWschr., 6, 589. 1 fig, 8 refs.


See also La intradermorréaction avec criolizados de espiroquetes de Reiter in the diagnostico de la sifilis. Giannettasio, G. (1951). Laboratorio, Granada, 6, 1. 13 refs.


Syphilis, Resistant to Treatment with Salvarsan, Bismuth, Mercury, and Penicillin, finally healing without Treatment. (Syphilis, welche gegen behandeling mit salvarsan, bismuth, kwik en peniciline resistant was en ten slotte zonder behandling is genezen.) DOORNINK, F. J. (1951). Ned. Tijdschr. Geneesk., 95, 2890. 16 refs.


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**A Reminder of the Reliability of the Wassermann Reaction.**


**SYPHILIS (Therapy)**


The authors first review the literature on the treatment of cardiovascular syphilis with penicillin. Early investigators believed that penicillin was too dangerous an agent to be used in cardiovascular syphilis. Later studies with larger series of cases have shown that penicillin does cause severe Jarisch–Herxheimer reactions, but in 1949 most authors believed that penicillin should be used in the treatment of cardiovascular syphilis and that its use was without danger.

A series is described of 53 patients suffering from cardiovascular syphilis and treated with penicillin at the New York Hospital. Some patients were treated on an ambulatory basis. No patient suffered a therapeutic paradox. In the first group there were nine patients with uncomplicated syphilitic aortitis. They were given penicillin in total dosage of 2 to 11.4 mega units; six had previous heavy-metal therapy and two of them were receiving it up to the time of starting penicillin. In two of the nine the temperature rose to 38.2°C on the second day of treatment; one of these had previously been treated with heavy metals. Each of the two had neurosyphilis also. There were no untoward effects and both patients completed their treatment. The other seven had no Jarisch–Herxheimer reaction, and were completely asymptomatic during therapy. Two of these patients have since died, one 1 month after treatment (of pulmonary embolism) and the other 2 years after treatment (of a non-cardiac disease). The remaining are still under observation.

In the second group there were 36 patients with aortic regurgitation who were treated with penicillin in total doses ranging from 3.3 to 12 mega units. Of these, 21 had received varying amounts of heavy metals before receiving penicillin; six had had heavy-metal therapy up to the time of starting penicillin. Of the total number four, who also had neurosyphilis, had a rise in temperature as high as 38.4°C, during the first 48 hours of treatment, even though they had had heavy-metal treatment previously; these patients were asymptomatic throughout the rest of the course. Six patients died between 2 months and 3 years after completion of treatment; four died in cardiac failure and two from non-cardiac disease. The remainder are still under observation.

A group of eight patients with aortitis and saccular aneurysm were treated with penicillin in a total dosage of 2.7 to 10.2 mega units. Seven had received previous heavy-metal therapy and three were receiving it until penicillin was started. There were no Jarisch–Herxheimer reactions or other untoward symptoms. All the patients are still under observation.

In the opinion of the authors penicillin is the method of choice in the treatment of cardiovascular syphilis; the dangers of the therapeutic paradox and Jarisch–Herxheimer reactions do not appear to be significant.

**Therapeutic and Toxic Effects of Penicillin in Syphilis.**

The rate of disappearance of treponemata from primary lesions is not related to the quantity of penicillin injected; single doses vary from 50,000 to 2,000,000 units. The author describes three cases in which there were grave toxic effects due to penicillin therapy: vesiculo-oedematous erythroderma, oedematous erythroderma with death from pulmonary oedema, and erythema multiforme with complete anuria lasting 36 hours.


A comparative study of various antibiotics in the treatment of syphilis was made in the Department of Dermatology, University of Maryland School of Medicine. A series of 56 dark-field-positive cases were treated with penicillin. One group were to be given 35 weekly injections of 300,000 units of procaine penicillin in oil, a second to receive a similar amount in oil and wax, and a third to take buffered oral tablets of 100,000 units thrice daily for 15 days. The attendances in all these groups were very poor and the results were discouraging.

A total of 71 cases of syphilis complicated by pregnancy were treated; 42 of these had a 15-day course of 300,000 units of procaine penicillin daily with excellent results. Another twenty patients who received a similar amount in oil and wax had three congenital syphilitic children, and among nine patients who were given the above course of oral tablets there were also three failures. The effect of carbamamide as an absorption-delaying agent with penicillin injections and tablets was investigated and found wanting.

A series of fourteen cases of dark-field-positive syphilis were treated with chloramphenicol as in-patients. The optimum dosage finally arrived at was a loading dose of 3 g, followed by 0.5 g. 4-hourly to a total of 48 g. Darkfield negativity was reached in 24 hours as a rule and the lesions healed in from 5 to 12 days. Two pregnant women in the series gave birth to non-syphilitic children.

In ten cases of early syphilis an oral course of aureomycin of 1 or 3 g. was given as a loading dose and 0.5 g.
4-hourly for 15 days. In ten further cases 100 or 200 mg. aureomycin hydrochloride with sodium glycinate was given intravenously every day for 15 days. Two patients on the oral course developed nausea and vomiting. With the oral course dark-field negativity was reached in 18 to 72 hours and the lesions healed in from 7 to 12 days; the corresponding findings for the intravenous course were 24 to 48 hours and 14 days. There was no difference in the 100-mg. and 200-mg. groups. Serological results were good, but the period of observation was less than 6 months.

Five cases with dark-ground-positive lesions were given 3 g. terramycin followed by 0·5 g. 4-hourly for 15 days. Dark-ground negativity was reached in 24 hours and the lesions healed in from 7 to 12 days. The follow-up is as yet incomplete.  


From 476 patients with neurosyphilis who had received penicillin treatment the authors, working at the Boston Psychopathic Hospital, selected for special study 130 with paretic neurosyphilis—sixty with simple dementia, 31 with schizoid personalities, 22 with affective personalities, and 17 others. The patients had been in hospital for an average of 22 months before receiving penicillin and had previously been treated with arsenical drugs and bismuth. Follow-up examination 2½ to 6 years after penicillin alone had been given to 26 patients, and fever therapy with penicillin to 104, showed that 54 (42 per cent.) had returned to the community, 64 (49 per cent.) remained in hospital, and twelve (9 per cent.) had died. Of the 54 individuals returned to the community, 25 (19·2 per cent.) had resumed work at or near their former levels, 21 (16·6 per cent.) were working at a lower level, five were not working, and the situation was unknown in three. The groups labelled "Affective Personalities" and "Others" fared best.

It is stressed that success with penicillin in the treatment of paresis depends on early diagnosis, but even so a 42 per cent. recovery rate is considered good for patients who had been in hospital for 22 months before treatment.

R. R. Willcox


The accumulated experience of many American clinics in treating thousands of cases of all types of syphilis indicates the superiority of penicillin alone and shows that supplemental treatment is rarely necessary. The use of procaine penicillin is advised either in oil with aluminium monostearate or in aqueous suspension, and the following schemes of treatment for the various stages of syphilis are recommended.

Prophylactic treatment: 2·4 mega units procaine penicillin in oil with aluminium monostearate (PAM) in one single injection during the incubation period.

Primary and secondary syphilis: 2·4 mega units procaine penicillin (PAM) as soon as the diagnosis is confirmed, followed by four injections each of 600,000 units at intervals of 4 days. To the small percentage of patients who develop a clinical relapse a second complete course of treatment should be given.

Syphilis in pregnancy: In the latter part of the first 3 months of pregnancy 600,000 units PAM are administered twice weekly, or 1·2 mega units once weekly for 4 weeks. For patients seen later in pregnancy 600,000 units daily for 8 days is advised. Even when labour is imminent treatment is still advised (a single injection of 2·4 mega units) in order to protect the foetus. Pregnant women who have already received adequate treatment before pregnancy and whose serological tests are negative need not be treated.

Congenital syphilis: The prognosis in infected infants treated before the age of 2 years is excellent; above the age of 2 years children tend to be sero-resistant. For congenital syphilis within the first 2 years several schemes are recommended, the choice being dependent upon the facilities available for the case: (a) 10,000 units procaine penicillin (PAM or in aqueous suspension) per lb. (453 g.) body weight, injected daily for 10 days; (b) 15,000 units PAM per lb. body weight, injected twice weekly for 4 weeks; (c) 40,000 units PAM per lb. body weight, injected once weekly for 4 weeks.

Late congenital syphilis: ten injections each of 600,000 units PAM given once daily, or twice a week for 5 weeks are recommended.

Cardiovascular syphilis: The value of penicillin in syphilitic cardiovascular disease cannot yet be fully assessed. In asymptomatic aortitis and in simple aortic regurgitation penicillin therapy appears to produce arrest or retardation of the process. Patients with cardiac decompensation should be treated with rest and digitalis until compensation has been restored, when penicillin will be tolerated. A course of once-daily injections each of 600,000 units PAM for 10 days is advised. The same total amount may be given twice a week for 5 weeks.

Neurosyphilis: Penicillin is an efficient remedy for all types of neurosyphilis. A course of 6 mega units in ten daily injections of 600,000 units PAM is recommended. Successful treatment is indicated by improvement in the results of the appropriate tests of the cerebrospinal fluid within 3 to 6 months. Lack of improvement is an indication for a further course of treatment.

In tertiary mucocutaneous and osseous syphilis a similar course of treatment is usually effective, but in latent syphilis the positive blood reactions rarely improve. The use of arsenicals or of bismuth does not increase the therapeutic results of penicillin therapy and is no longer recommended. [The place of iodides in modern treatment is not mentioned.]

V. E. Lloyd


Of 34 patients with primary syphilis treated with single
injections of 1,200,000 to 2,400,000 units of procaine-penicillin with aluminium monostearate and followed up for 12 to 30 months, all were sero-negative when last seen. Of 68 patients with secondary syphilis similarly treated and observed 49 (72 per cent.) were sero-negative when last seen, seven were still sero-positive with Kahn titres of 8 or less, two were re-treated on account of persistent Kahn titres of 16 or higher, eight were re-treated for relapse or reinfection, and two others for reinfection; in both the last two cases new chancrees had developed. It is considered probable that a dose of 1,200,000 units is sufficient for primary syphilis, but when single-injection techniques are employed for secondary syphilis a dose of at least 2,400,000 units is required.

Of seven patients with primary syphilis, four of them sero-negative, who were treated with 1,200,000 units given once each week for 2 weeks and followed up for 12 to 30 months, six (86 per cent.) were sero-negative when last examined, and one had a fresh chancre. Of 55 others with secondary syphilis similarly treated, 38 (69 per cent.) were sero-negative and seven had Kahn titres of 8 or less when last examined, three were re-treated on account of persistent Kahn titres of 16 or more, six were re-treated for relapse or reinfection, and one other for reinfection with the development of a new chancre.

Of six patients with primary syphilis given 1,200,000 units once a week for 4 weeks, all were sero-negative when last examined. Of 27 patients with secondary syphilis, 21 (77 per cent.) were sero-negative when last observed and five had Kahn titres of 8 or less. One was re-treated because of "relapse or reinfection".

R. R. Wilcox

Chloromycetin (Chloramphenicol) in the Treatment of Various Types of Syphilis. A Preliminary Follow-up.


The authors have treated 103 patients, 33 with primary, 46 with secondary, eleven with early latent, and thirteen with other forms of syphilis, with 30 to 60 mg/kg. chloramphenicol orally over 4 to 8 days. The patients were observed for 5 to 6 months. The healing of the lesions of the 79 cases of early syphilis was as rapid as with penicillin and one relapse and three reinfections occurred at 5 to 6 months. Of five patients with neurosyphilis, one had parasis, two acute meningovascular syphilis, one optic atrophy, and one tabes dorsalis. The two with meningovascular syphilis and the one with parasis all showed at 15 days a restoration to normal of the cerebrospinal fluid cell count but no other changes, but were subsequently lost to surveillance. The patients with optic atrophy and tabes dorsalis showed no improvement at 6 to 8 months. Six of the patients with early syphilis were pregnant at the time of treatment. There was one definite failure in the child in so far as secondary lesions developed at 2 months but the status of the remainder at 1 to 3 months was satisfactory.

Reactions to chloramphenicol were infrequent and consisted of dryness of the mouth and diarrhoea in a few cases. Herxheimer reactions were noted. Five patients developed a red granular glossitis and pharyngitis, which disappeared after administration of vitamin B.

R. R. Wilcox (abridged)


Nine cases of interstitial keratitis were treated with local cortisone as eye-drops. All but one showed improvement in the condition. Two had been treated previously by other methods (including penicillin) without success.

S. J. H. Miller


This report deals with the treatment of early syphilis in 162 European and native military personnel of the French Army in Morocco. The aim was to assess the value of long-acting penicillin preparations and to devise an optimum course of treatment permitting the maintenance of a blood level of at least 0.03 units of penicillin per ml. for at least 2 weeks.

Group I: forty patients were given five injections of 1,200,000 units of quinine penicillin (benzyl-penicillin with vinyl-quinuclidyl-methoxy-quinolyl-carbinol) in watery solution at 3-day intervals.

Group II: Fifty patients were given four injections of 1,200,000 units of quinine-penicillin in oil at 4- or 5-day intervals. In these two groups a certain cumulative effect appeared after the fifth day.

Group III: 39 patients were given two injections of 2,400,000 units each of quinine-penicillin in oil at an interval of 1 week.

Group IV: 33 patients were given 2,400,000 units of procaine-penicillin in oil with 2 per cent. aluminium monostearate, repeated after 1 week. No cumulative effect occurred in these two groups.

The resulting blood levels of penicillin are represented in good graphs and discussed in detail. Local side-effects were delayed pain and/or induration on the site of injection; 22 per cent. of cases also had a febrile reaction and 4 per cent. had a Herxheimer reaction. This figure was reduced to 1-2 per cent. by giving four injections of mercurials before the penicillin. Dark-ground negativity of primary sores was reached in 4 to 8 hours, of mucous patches in 6 to 10 hours, and of secondarily-infected sores in 8 to 12 hours. In all four treatment groups superficial lesions healed in a mean of 34 to 37 days, minimum 15 to 26 days.

Finally, the results of serological tests in the four treatment groups are analysed and presented in convenient tables. The duration of the follow-up did not exceed 11 months in any case. In this part of the study Europeans and natives are considered separately.
because the former were given one or more courses of bismuth hydroxide after the penicillin. Their serology improved 1 month sooner than that of the natives, but this was not due to the bismuth but to the better response of Europeans to antisyphilitic treatment.

Ten sero-negative primary cases were treated and remained negative. Out of 77 primary sero-positive cases there were eight possible, two probable, and two certain failures among the natives and none among the sixteen Europeans of the group. In 51 cases of secondary syphilis, six Europeans were cured; there were six possible, two probable, and one certain failure among the natives of the group. In a last group of 22 cases of previously insufficiently treated secondary syphilis, seronegativity was obtained in only ten cases.

In conclusion it would appear that 1,200,000 units of quinine-penicillin in aqueous solution is best, probably because “spikes” in the penicillin blood level are better than a uniformly high blood level. For a more definite assessment the follow-up period would have to be longer.

Ferdinand Hillman


The authors report the results of ambulatory treatment of a series of 402 cases of syphilis in various stages at the Cincinnati Health Department Clinic. Excluding certain cases, 389 cases were actually included in the report; 343 (88 per cent.) of these completed the treatment. These patients had to purchase their own penicillin.

Injections of 600,000 units procaine penicillin with 2 per cent. aluminum monostearate in oil (PAM) were given for 10 working days to most patients and for 20 working days to those with neurosyphilis. The figures are analysed according to the stage of the disease, and the criteria for classification of the results as “satisfactory” or “unsatisfactory” are given.

Treatment in primary, secondary, and early latent syphilis was eminently satisfactory; 38 post-therapy lumbar punctures in early latent cases revealed no abnormal spinal fluids. Late latent and late cases were also treated; these included 21 congenital cases, one with cardiovascular syphilis, nineteen with asymptomatic neurosyphilis, and eight tabetic. Improvement in this group was not expected, but the cerebrospinal fluid showed a reduction in cell count and protein level in six of the asymptomatic cases, and complete reversal of abnormalities in one further case. This latter was the only case in which the time lapse was sufficient to allow for this to occur.

Treatment was completed in seventy pregnant women before delivery. Of the 65 so far delivered, 53 of the children have proved non-syphilitic beyond 3 months of age, seven beyond 2 months of age, and five were stillbirths without any post-mortem evidence of syphilis.

In the whole series it was estimated that in primary and secondary syphilis about 20 per cent. of the patients had a Jarisch–Herxheimer reaction, and two patients suffered from a penicillin skin reaction.

The attendance rate of the present series is compared to that of a “free” hospital clinic and the difference is found not to be statistically significant.

The presumably effective blood level of PAM is discussed and the views of other workers are presented. In the authors’ opinion daily administration is not necessary if PAM is used in primary or secondary syphilis, provided an effective blood level is maintained for at least 72 hours. In 95 per cent. of patients 300,000 units PAM would appear to be sufficient. In late latent and tertiary syphilis and in pregnancy, however, repeated injections are preferable.

Ferdinand Hillman


In this investigation 112 patients with asymptomatic neurosyphilis received not less than 4.8 mega units aqueous penicillin or penicillin in oil–beeswax in not less than 8 days, and the results have been evaluated on the basis of the cerebrospinal-fluid cell count. For the purpose of this study an abnormal cell count was arbitrarily taken as 8 or more leukocytes per c.mm. instead of the usual 5 or more per c.mm. At the end of 6 months ten patients either failed to attain a normal cell count or showed an initial response followed by a secondary rise, eight of the ten failures being detected during the first year of observation. In the remaining 102 normal cerebrospinal-fluid cell counts were attained.

Penicillin therapy is considered superior to all other methods, but the minimum total dose recommended is not less than 5 mega units, preferably 9 mega units, over a period of 10 days.

[The length of the follow-up period is not stated.]

R. R. Willcox


In a review of the literature on the treatment of cardiovascular syphilis by penicillin, the authors, working at the University of Michigan Medical School, found that adverse effects were reported in only eight cases. A careful analysis of these left considerable doubt whether treatment had anything to do with the undesirable manifestations. Records of the penicillin treatment of about 190 patients with cardiovascular syphilis in whom no important adverse reaction was observed are now available. Approximately 25 patients had not received previous treatment with heavy metals or iodides.

The authors report a series of 21 cases in which no treatment had been given before penicillin therapy was started. Of the 21 patients, seventeen were white, four Negro; three were females and eighteen were males. The average age was 50. The average duration of the
disease was 24 years. Of the 21, fourteen also had neurosyphilis, four had saccular aneurysm, twelve had aortic insufficiency, and five had both aneurysm and aortic insufficiency. Only five were free from symptoms referable to the cardiovascular system. Of the remaining sixteen, symptoms varied from minimal pain or dyspnoea to congestive failure and pronounced effects of aneurysmal dilatation.

Benzyl penicillin was given to twelve patients, 40,000 units hourly to a total dosage of 4,000,000 units. One received 40,000 units for ten doses; another received 10,000 units 3-hourly for eight doses, then 40,000 units 3-hourly to a total of 4,000,000 units. One received 20,000 units 3-hourly to a total of 2,000,000 units. Two received 25,000 units 3-hourly to a total of 6,000,000 units; one was given 20,000 units 3-hourly to a total of 12,000,000 units. One received total dosage of 4,600,000 units, another 6,000,000, and another 4,800,000 units. Malaria therapy was given to three patients as well as 4,000,000 units of penicillin. There was no certain evidence of Herxheimer reaction in this group of patients. In general, symptoms referable to the cardiovascular system improved with treatment; this may have been partly due to rest.

Follow-up examinations were not possible on eight patients; the other thirteen have been followed up for varying periods up to 51 months. At the time the paper was written four were dead, but the deaths could not be attributed to the effects of the treatment. One patient had deteriorated, but there was no evidence that the deterioration had been accelerated by penicillin. No objective change was seen in the remaining eight patients; three claimed alleviation of symptoms, others no significant change.

In the opinion of the authors the follow-up period has been too short to permit conclusions as to the long-term effects of treatment, but in their view it is safe to give penicillin in cardiovascular syphilis without previous treatment with iodides or bismuth. **H. S. Laird**


In this long paper with many tables are presented the results of treatment of 589 patients suffering from neurosyphilis. Of these 479 were treated with penicillin alone and 110 with penicillin and malaria therapy. The group treated with penicillin alone contained Negroes in a proportion of 3 to 1 and the group given penicillin and malaria treatment contained whites in a similar proportion. The mean duration of follow-up was 19.5 to 21.7 months. The graver forms of neurosyphilis constituted only 30 per cent. of the penicillin group and 67 per cent. of the penicillin-with-malaria group. The total re-treatment rate for the penicillin alone group was 61 per cent. as against only 27 per cent. for the penicillin-with-malaria group, although it is pointed out that there was a greater tendency to retreat with penicillin alone than with penicillin and malaria. The cerebrospinal-fluid relapse rate was 12.5 per cent. for the penicillin alone group and 0.93 per cent. for the penicillin-with-malaria group.

The results of treatment with penicillin alone in 74 paretics and taboparetics were compared with those in 43 paretics and taboparetics treated with penicillin and malaria. Complete rehabilitation was achieved in 46 per cent. and partial rehabilitation in 18.9 per cent. of the penicillin group; while the comparable figures for the penicillin-with-malaria group were 44.2 per cent. and 18.6 per cent. respectively. An evaluation on the grounds of mental status gives a definite slight advantage to the penicillin-with-malaria group.

Progression of the disease was noted in six out of seventeen patients with optic atrophy after treatment with penicillin alone and in three out of sixteen after penicillin and malaria. Blindness occurred in four of the former and in two of the latter. The addition of malaria therapy offered no advantages in mitigating the symptoms of tabes, and treatment failure was noted in 28.6 per cent. of the penicillin alone group and 19.4 per cent. of the penicillin-with-malaria group, but these differences are not statistically significant. The increments in body weight after treatment were similar in both groups.

Clinical Herxheimer reactions were noted in 2.0 per cent. of the penicillin alone group and in 0.9 per cent. of the penicillin-with-malaria group: one patient sustained permanent damage. Febrile Herxheimer reactions were noted only in those patients with a Group III cerebrospinal fluid. Patients whose treatment was given over 8 days or less did not fare so well as those receiving it over 9 or more days. The clinical-failure rate was essentially the same, whether the initial cell count was more or less than 10 cells per c.mm. Race and sex proved unimportant considerations in the outcome of asymptomatic neurosyphilis, but in parenchymatous neurosyphilis the clinical-failure rates were higher in Negroes than in whites and higher in females than in males. The over-all clinical-treatment failure rate was 13 per cent. in 477 neurosyphilitics treated with penicillin alone and 14.4 per cent. in 104 neurosyphilitics treated with penicillin and malaria, although, as has been stated, the two groups are not strictly comparable. **R. R. Wilcox**


During 1945-50 in Venezuela, 1,087 syphilitic pregnant women were admitted to hospitals of the maternity services, and 694 were treated with penicillin in outpatient clinics. These figures represent 78 per cent. of all the cases of maternal syphilis in the whole country, and show a prevalence of 5 per cent. among the total population of pregnant women. From this total, a group of 437 cases was selected for detailed analysis of the therapeutic value of penicillin treatment. Doses ranged from 2,000,000 to 6,000,000 units but 98.5 per cent. of the patients received over 3,000,000 units. Only in 2 per cent. of the cases was treatment started before the 3rd


ABSTRACTS


GONORRHOEA (General)


GONORRHOEA (Pathology)


GONORRHOEA (Therapy)


Variable success in the treatment of gonorrhoea with terramycin has been reported by different authors. The present author treated 29 patients (26 men and three women) with this antibiotic. With a single dose of 1 or 2 g. there were three failures and three successes; when the dose was 1 g. followed by another 1 g. after 6 hours, in nineteen cases there were only two relapses, but in one there was reinfection and in two a non-specific urethritis persisted. One patient with gonococcal urethritis and epididymitis was treated with 1 g. initially followed by 250 mg. four times a day for 4 days; signs and symptoms rapidly disappeared, and no relapse was observed over an observation period of 29 days. Side-effects were minimal in the series, consisting only of heartburn (one case) and anal soreness (two cases).

That terramycin may mask a concomitantly acquired syphilis is shown by the facts that a patient with secondary syphilis treated with 2 g. terramycin gave a well-marked Herxheimer reaction, and that the treponemata were reduced in number and rendered sluggish after 24 hours. Terramycin appears to be indicated in the treatment of gonorrhoea where injections (of penicillin) are impracticable for any reason. T. E. Osmond

At the Harlem Hospital, New York, 177 cases of acute gonorrhoea in the male, twenty of lymphogranuloma venereum, and eleven of granuloma inguinale were treated with oral terramycin.

In gonorrhoea a "primary cure rate" of 92.6 per cent. was attained by an initial dosage of 0.5 g. followed by a further 0.5 g. 6 hours later. In lymphogranuloma venereum 1 g. daily was given in four divided doses for an average of 18½ days in the cases with bubo and 25 days in those of proctitis without stricture. In chronic cases with rectal stricture, though the inflammatory reaction around the stricture began to resolve about the 10th day of treatment, the maximum benefit was not obtained until the 40th day. Toxic reactions were few and never necessitated withdrawal of the drug for more than a week; they included mild diarrhoea five cases), black tongue (one case), and pruritus ani (one case). No relapses have so far been observed during a follow-up period of from 2 to 11 months. The eleven patients with granuloma venereum were also given 1 g. terramycin daily in divided doses, and this was followed in all cases by complete epithelization of the lesions in from 28 to 35 days. In none of six patients followed up for from 3 to 8 months has there been any sign of relapse.

*G. L. M. McElligott*


The authors record the results of treating gonorrhoea in the male with single oral doses of aureomycin. Of thirteen patients given 0.5 or 0.75 g., seven remained uncured. A further 120 patients received 1.0, 1.5, or 2.0 g., and of these 95 (79 per cent.) were cured. The authors consider that this "cure rate" does not approach that of 95 per cent. attained by them with 75,000 units of procaine-penicillin in oil. [The criteria of "cure" are not stated.]

*G. L. M. McElligott*


It is emphasized that exacerbation of symptoms of gonorrhoeal salpingitis is due to reinfection, and that in the absence of reinfection the condition becomes self sterilizing. Operation is indicated only for chronic cases, and should be limited to the minimum procedure which will cure the patient; for this, it is only necessary to divide the continuity between tube and uterus. This treatment has been carried out on 114 patients at the Flint-Goodridge Hospital, New Orleans. No patient had less than three attacks of salpingitis before operation. Good results were obtained; no patient required reoperation, none experienced dyspareunia afterwards, and no wound infections were recorded. The author also states that oedematous, palpable tubes become normal in size within 4 weeks after the operation, that morbidity and mortality rates are reduced, and that no scar endometriosis has been observed. A brief description is given of the technique employed.

[The greater part of this paper is taken up by arguments purporting to show why this operation is better and safer than more radical procedures. Some of these reasons are theoretical, and some of the comparisons made are not between strictly comparable data. There is one unfortunate misprint, which reverses the sense in a vital sentence. Few clinical data are given about the cases treated, the results are set out only in one small inadequate table, and conclusions are stated which have not been previously mentioned in the text. All this is unfortunate, as the results are excellent, and the paper would have had much more value if more clinical information had been supplied.] C. J. Dewhurst


There were only 4-4 per cent. of failures in 6,400 male patients with gonorrhoea treated with single injections of 200,000 units of penicillin, plus sulphonamides given in four doses totalling 6 g. daily for 4 days. With sulphonamides plus only 100,000 units of penicillin, however, there were 27 per cent. of failures in eighty cases treated. When 100 mg. streptomycin (a subminimal dose for gonorrhoea) was added to the latter course, there were no failures in forty cases treated, although there was one failure in ten if the sulphonamides were omitted.

When even less streptomycin (50 mg.) was given with 100,000 units of penicillin in one injection plus sulphonamides, there were still no failures in forty cases treated but if the sulphonamides were omitted there were three failures in ten. Also when only 50,000 units penicillin combined with 100 mg. streptomycin were given, there were ten failures in eighty receiving no sulphonamides, but on the sulphonamide course being added to these small doses of antibiotics there were only two failures in 76 treated. Tables showing the durations of bacteriostatic blood levels are presented. R. R. Willeox


When Penicillin does not cure Gonorrhoea Patients. (Cuando la penicilina no cura a los blenorrágicos.) SAINZ de AJA, E. A. (1951). *Medicina, Madr.*, 19, 446.


As is well known, the administration of caronamide during penicillin treatment blocks the excretion of penicillin by the renal tubules and increases the concentration in the blood. However, the use of caronamide is attended by various disadvantages, and this has restricted its adoption to the exceptional case, such as in resistant bacterial endocarditis. The present paper describes another compound having a similar action—"Benemid", which has the following formula:

\[
(CH_2CH_2CH_2)_2N-SO_2-C_6H_5-COOH.
\]

This is a crystalline white powder, nearly insoluble in water, and tasteless. It is rapidly absorbed from the gastro-intestinal tract, but very slowly excreted by the kidneys. Dogs have been given 200 mg./kg. body weight daily for 6 weeks without ill effects. In man a dose of 2 to 4 g. per day is effective and safe. It seems to inhibit various enzyme systems which are involved in the excretion of a number of drugs by the renal tubules and it raises the blood levels of penicillin and of \( p \)-amino-salicylic acid.

The present paper describes an investigation in which it was attempted to obtain a satisfactory concentration of penicillin in the blood by administering penicillin by mouth with, in addition, 0.5 g. benemid 6-hourly. Three preparations of penicillin were tried, seven to ten patients receiving each of them. One of the preparations—a penicillin ester, L.G.2—yielded only very low blood levels and was obviously unsuitable for oral administration. Procaine penicillin (0.5 g.), on the other hand, yielded fairly high levels (about 0.6 unit per ml., at 1 to 2 hours), and so did sodium benzyl penicillin. The patients were then given Benemid 0.5 g. 6-hourly for 24 hours, after which the administration of procaine penicillin was repeated. The resultant blood concentration of penicillin was 2 to 4 times as great as that without benemid and its duration was correspondingly increased. On the other hand, there was a great variation between different patients in the blood level attained after the oral administration of penicillin, so that the significance of the findings is difficult to check statistically. Benemid caused no untoward symptoms. Some patients took it continuously for 42 days without ill effect, and tubular function (as judged by phenolsulphonephthalein excretion) returned to normal within 24 hours of stopping the drug.

F. Hawking

The rapid renal clearance of penicillin makes it difficult to maintain blood levels adequate to combat resistant organisms. Substances which block renal tubular excretion of penicillin have been shown to raise the blood level, but only caronamide has been extensively used. The new compound \( p-(\text{di-N-propylsulphamyl})\)-benzoic acid ("Benemid") also enhances the blood level of penicillin by a similar action.

In this investigation to test the effectiveness of Benemid in raising the serum penicillin level, 74 adult patients in the King County Hospital, Seattle, were divided into five groups according to the dosage of penicillin received. Group I, consisting of nineteen patients receiving 300,000 units procaine—penicillin intramuscularly once daily, received Benemid in doses of 0.5 g. every 6 hours for at least 24 hours before the serum level of penicillin was measured. The level before and after giving Benemid was measured in each patient at 3, 12, and 24 hours after a penicillin injection. Comparisons were made in 57 cases, and a three-fold increase in the penicillin level following Benemid was noted 39 times.

In Group II, 27 patients receiving the same dose of penicillin every 12 hours, the serum level was measured before, and 3 and 12 hours after a penicillin injection. There was, on an average, a 2.5-fold increase in the penicillin level following Benemid on fifty out of the 54 occasions when determinations were compared.

In Group III, containing five patients receiving 600,000 units procaine—penicillin every 8 hours, a similar increase was noted.

Group IV consisted of nineteen patients receiving 100,000 units crystalline benzyl penicillin every 3 hours. The blood penicillin level following benemid was higher in eighteen of the cases, the average increase being three-fold.

Group V consisted of four patients receiving 1,000,000 units of crystalline penicillin every 2 hours, in whom the serum penicillin level was measured 2 hours after an injection of penicillin. On an average, the serum level was increased by Benemid from 21 units per ml. to 73 units per ml. The cerebrospinal-fluid level of penicillin in two of these patients was raised about 20 times.

Nearly all the patients received 2 g. Benemid daily for 2 or 3 days, and in none was there any evidence of systemic toxicity. It thus appears that the oral administration of 0.5 g. Benemid every 6 hours may give a three- to five-fold enhancement of the serum penicillin level without producing any toxic signs or symptoms.

If later work on more patients confirms the above findings it seems certain that Benemid will prove of value in oral penicillin therapy.

G. B. West


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G. B. West


MISCELLANEOUS


Isolation of the causative virus being impractical, lymphogranuloma venereum is usually diagnosed upon
clinical evidence, supported by Frei's skin reaction; but the latter is not always specific and may remain positive for many years after the subject has had the disease.

As an additional aid to diagnosis, the authors have investigated the complement-fixation reaction as performed by the original technique of McKee, Rake, and Schaffer, but modified by the use of 0-25-ml amounts of serum, antigen, and saline. 0-5 ml. of complement, and 0.5 ml. of sensitized cell suspension containing 3 units of haemolysin. Incubation was carried out for 2 hours at 37° C. Because of the increased incubation time, the authors employed 2 full units in 0-5 ml., as they considered 1 full unit of complement to be 2 tubes beyond the exact unit.

The patients were divided into four groups.

Group I, 249 adult controls with no evidence of present or past venereal disease, gave only 2-4 per cent. positive lymphogranuloma venereum complement-fixation reactions in any serum dilution.

Group II, 57 children, average age of 6 years, in whom sexual contact could be excluded, gave no positive reactions.

Group III, 252 syphilitic patients with no evidence of lymphogranuloma venereum, gave 7-4 per cent. positive lymphogranuloma venereum complement-fixation reactions with a titre greater than 1 in 20, but 26 per cent. were positive in a serum dilution of at least 1 in 5.

Group IV, 27 patients suffering clinically from active lymphogranuloma venereum, all reacted positively except one in whom the diagnosis was questionable. In all but two the reactions were positive with titres of 1 in 40 or greater.

The authors reason that most positive lymphogranuloma venereum reactions represent active, latent, or healed infection with the virus of lymphogranuloma venereum, but that the specificity is not absolute, as cross-reactions may occur when the infection is caused by certain other viruses, when the patient has liver disease, and, occasionally, in syphilis. They conclude that a positive reaction of 1 in 40 or higher indicates infection with a member of the psittacosis-lymphogranuloma group of viruses, and when accompanied by clinical manifestations of acute lymphogranuloma venereum is presumptive evidence of active infection with this virus.

T. Anwyll-Davies


Terramycin was given by mouth in a dose of 500 mg. four times daily, and later, 250 mg. four times daily to twenty patients with lymphogranuloma venereum. Results were equally good with both dosages. There were twelve acute cases with buboes or proctitis alone. These all healed up rapidly, but one patient with proctitis later complained of rectal irritation without actual signs of relapse. In eight chronic cases there was improvement in the proctitis and in the stricture, but three patients relapsed in 1 to 3 weeks. Further treatment resulted in improvement. A number of patients had diarrhoea; one patient had a macular rash after 7 days, possibly not related to the terramycin, and another had black tongue and anal pruritus.

[Although no claim is made that a cure has been effected by terramycin it is obvious that this antibiotic is of value in treatment of lymphogranuloma venereum.]

G. M. Findlay


The diagnosis of a case of localized sporotrichosis of the genitalia was based on the finding of painless granuloma without marked inflammatory reactions and with abscess formation, as well as on the culture of *Sporotrichon gourgeroi* and the agglutination reaction. The complement-fixation test was negative. Guinea-pigs and mice developed abscesses due to sporotrichosis after intra-arterial injection of the cultures. Photo-micrographs of the granulation tissues are reproduced in the paper.

Kate Maunsell


Past experience with oral antibiotics has shown that patients cannot always be relied upon to take the dose prescribed, and the parenteral route is preferred for out-patient use. With this in mind efforts have been directed towards the development of a chloramphenicol preparation which could be injected intramuscularly. Finely ground chloramphenicol powder was therefore suspended in graded amounts of sterile normal saline solution until the resultant suspension contained 500 mg. chloramphenicol per ml. The final product had a consistency resembling repository penicillin, and when injected intramuscularly into a rabbit produced no more reaction. A single intramuscular injection of 2 g. of this suspension gave measurable serum levels of chloramphenicol for 24 hours and urinary excretion levels for 72 hours. An injection of 4 g. consistently maintained satisfactory serum levels for 72 to 96 hours.

Intramuscular injections of chloramphenicol were given to 43 patients with granuloma inguinale. All were Negroes, 23 being females and twenty males. The duration of infection varied from 1 week to 9 years and only seven had previously been treated. Initially at one centre the treatment schedule was set at a single injection of 2 g. (4 ml.) intramuscularly every 96 hours for three injections, a total of 6 g. in 8 days. This was increased to 4 g. every 72 hours after two relapses had been noted. At another centre a schedule of three injections of 4 g. at intervals of 96 hours, was maintained throughout. No toxic effects were observed apart from one case of suspected gluteal abscess, possibly due to faulty technique. Donovan bodies disappeared from the tissue scrapings of 21 patients within 48 hours, and healing of the lesions took place within 10 days in twenty patients. The patients...
were observed for 2 to 11 months, and 38 remained well and healed. There were only five relapses, of which two were in the group of three patients receiving the smaller amount of the drug.

[The adoption of this technique should do much to increase the popularity of the newer antibiotics in the treatment of the venereal diseases.] **R. R. Willeox**

### Specificity of Skin Tests in Lymphogranuloma Venereum and Chancroid

**[In English.] REYMAN, F. Acta derm.-venereol., Stockh., 31, 257.** 3 refs.

Although some workers in the United States have cast doubt on the specificity of the Frei and the Ito tests, the author finds that in Denmark these tests in cases of lymphogranuloma venereum and chancroid respectively are most specific. It is felt that some of the American Negroes who were control subjects in investigations of these tests may have been previously infected with either of the diseases.

The author makes a plea for the Ito test to be more correctly called the Ito-Reenstierna test. **H. R. Vickers**

### Terramycin in the Treatment of Chancroid, Lymphogranuloma Venereum, and Granuloma Inguinale


The authors carried out an investigation at the Philadelphia General Hospital into the treatment with terramycin of chancroid (four cases), lymphogranuloma venereum (nine cases), and granuloma inguinale (six cases).

The four patients with proved chancroid were given 2 g. terramycin daily in divided doses for 5 days. In three of the patients the lesions healed in from 7 to 12 days; in the fourth, whose condition relapsed immediately after treatment, healing was obtained in 16 days after a second course of treatment.

In the nine cases (six acute and three chronic) of lymphogranuloma venereum the patients were given 2 g. terramycin daily for periods ranging from 10 to 80 days. Of the six early cases a good response was obtained in five, but the sixth case was a failure even after the patient had been given a total of 80 g. In the three patients with chronic disease, who suffered from proctitis, rectal strictures, and sinuses, only the proctitis responded to treatment; doses of from 40 to 80 g. are recommended in this type of case.

The six patients with granuloma inguinale of from 2 months' to 3 years' duration received total dosages of from 18 to 80 g. In the patient with the shortest history (2 months) the condition relapsed twice in 3 months, but the lesions of the remaining five patients had all healed, one 12 days and the others 3, 4, 5, and 9 months respectively after treatment. The duration, extent, and distribution of the lesions did not appear to influence their response to treatment. The authors consider that, though terramycin seems to be effective in this disease, the follow-up period is still too short for definite conclusions to be drawn. **G. L. M. McElligott**

### The Treatment of Granuloma Inguinale, Lymphogranuloma Venereum, Chancroid, and Gonorrhoea


This paper contains a review of the current literature as well as a summary of the work done in the Department of Dermatology and Syphiliology of the University of Maryland School of Medicine.

The author puts forward the view that a single injection of from 75,000 to 300,000 units procaine penicillin in oily suspension or aqueous solution is the most successful treatment for gonorrhoeal urethritis. He also describes his results of the treatment of the disease with aureomycin, chloramphenicol, terramycin, streptomyacin, and dihydrostreptomycin. He stresses the fact that careful follow-up is most important, as any of these antibiotics may mask the appearance of early syphilis. He is of the opinion that antibiotics will prove of value in treating the cutaneous complications of gonorrhoea.

Concerning the use of antibiotics in the treatment of chancroid the author makes the point that if an antibiotic treatment is started the presence or absence of early syphilis must be carefully determined, as, besides masking the appearance of the disease, an antibiotic may prevent the development of positive serological reactions for from 1 to 4 months or even longer. Careful and repeated dark-ground examination must be carried out. Antibiotics should be used only when the sulphonamides have failed.

According to the author aureomycin and chloramphenicol are the best antibiotics to use for the treatment of lymphogranuloma venereum; and that streptomycin, dihydrostreptomycin, aureomycin, and chloramphenicol are of equal value in the treatment of granuloma inguinale. In the latter condition results with any of them are far better than with any other form of therapy. He considers that terramycin may also be a valuable therapeutic agent. **H. S. Laird**

### Complement-fixation with Lygranum Antigen


"Lygranum" antigen is produced from the yolk sac of embryo chickens' eggs infected with the virus of lymphogranuloma venereum. The author found that with this substance a positive complement-fixation reaction was given with serum from patients suffering from upper respiratory infection, especially those giving a false positive Wassermann reaction; from a few cases of active syphilis a positive complement-fixation reaction was also obtained. **H. R. Vickers**

### Herpetic Urethritis


A case is described of infection of sexual origin manifested by symptoms of urethritis, with purulent discharge simulating gonorrhagia, absence of gland involvement, and moderate fever. After a week there were vesicles and ulcers in the meatus and marked cutaneous hyperaesthesia involving the trunk, neck, and.
The process developed with two phases of increased severity alternating with less acute periods. After 2 months it disappeared spontaneously without recurrence. Treatment with sulphonamides and antibiotics failed to influence the condition. Bacteriological examination of smears was negative, but inoculation of the urethral secretion into the chorio-allantoic membranes of chicken embryos led to the isolation of a virus of the herpes type. Histological study of the infected membranes showed inflammatory changes with intranuclear inclusions in some cells. Neutralization of the virus by anti-herpetic immune serum confirmed the diagnosis.

E. Vazquez-Lopez


