ABSTRACTS

(This section of the JOURNAL is published in collaboration with the two abstracting journals, Abstracts of World Medicine, and Abstracts of World Surgery, Obstetrics, and Gynecology, published by the British Medical Association. The abstracts are divided into the following sections: syphilis, (general, therapeutic, pathology); gonorrhea (general, therapeutic, pathology); other venereal disease conditions; public health. 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 (Therapeutic)


Five hundred patients, of whom 185 had serum-negative and 164 serum-positive primary syphilis, 89 secondary syphilis, 60 latent syphilis, and 2 asymptomatic neurosyphilis, were treated by the 20-day intensive schedule with 1 mg. "mapharsen" per kilo body weight daily (maximum daily 75 mg.) and 0-2 g. of bismuth subsalicylate every 3 days to a total of eight injections.

In the first 300 patients the blood count was taken and the non-protein nitrogen was estimated on admission and weekly thereafter. White-cell counts were taken in the middle of each week; the icterus index was determined, the urine examined, and the Rumpel-Leede tourniquet test performed every 3 days. Temperature records gave the most valuable evidence of toxicity. In the remainder of the patients the number of white cells and the non-protein nitrogen were estimated on admission and on discharge, and the icterus index was determined and the urine examined weekly.

Treatment of 476 patients was complete and of 24 incomplete. Of these last, 7 had cerebral irritation, 6 jaundice, 3 toxic erythema, 3 agranulocytosis, 2 severe fever, 2 hemorrhagic encephalitis, and 1 persistent albuminuria. Reactions in 190 (37.6%) were sufficiently severe to cause modification of the schedule; of these, 125 had fever, 33 toxic erythema, 14 cerebral irritation, 6 jaundice, 3 agranulocytosis, and 2 hemorrhagic encephalitis. The majority of reactions appeared before the tenth day, were more often seen in primary syphilis, and appeared unrelated to previous Herxheimer reactions.

When treatment was resumed smaller doses of from one-fifth to one-half the previous dose, increasing to the maximum in from 2 to 5 days, were given in the mild cases; more severe cases received 1/100 of the dose, increasing to the maximum in 7 days. On resumption there was increased liability to both toxic erythema and fever. A previous attack of fever had occurred in the cases of jaundice and agranulocytosis, and, though such an event was exceptional in those patients showing cerebral irritation and encephalitis, fever was usually noted as a prodromal or concurrent sign. Seventeen patients—4 with fever, 3 with toxic erythema, 8 with cerebral irritation, and 2 with agranulocytosis—received 2,3-dimercaptopropanol (BAL) by injection with apparently good results. One patient with hemorrhagic encephalitis was given this drug by inunction with no demonstrable benefit.

The late onset of stomatitis probably prevented many cases with complications due to bismuth from being seen, but 5 severe cases were noted. There were also 2 instances of bismuth dermatitis, 5 of bismuth arthralgia, and 3 of bismuth "grippe." Four patients had albuminuria at the start, and in 2 of these bismuth was discontinued as this was increasing. In no case did albuminuria arise de novo during the course. R. R. Willeox


The results are reported of a follow-up lasting 6 months of 982 male patients treated for early syphilis by the "20-day" arsenic and bismuth regime (arsenoxide 20 mg. per kilo body weight, divided into twenty daily doses, with eight injections, each of 0·2 g., of bismuth salicylate). Though the treatment was toxic there were no deaths, and of the first 775 patients 96·3% completed the course. Two facts are outstanding—serious reactions rarely occur during the first 5 days, and when they do they are almost invariably ushered in by fever. Of the 982 patients observed for 6 months, those with serum-negative primary syphilis gave 98.68% of negative serum reactions, those with serum-positive primary syphilis 95·1%, those with secondary syphilis 92·68%, and those with latent syphilis 76·32%; at 12 months in 238 cases the respective percentages for the first three groups were 97·56, 93·4, and 95·45. Approximately twice
as many unsatisfactory results were noted after 12 months as after 6 [a point of some importance as regards 'ultimate prognosis']. Serological relapses, excluding the latent cases, were commonest in the secondary group at 6 months (2-44%), but in the serum-positive primary group at 12 months (5-66%). The cerebrospinal fluid of 785 patients was examined 6 or more months after treatment, and 6 (0-76%) were found positive. It is concluded that though the results are satisfactory this method of treatment is unjustifiable when penicillin is available.  

T. E. Osmond


The "26-week" schedule for the treatment of early syphilis was adopted in the American Army early in 1942; it consisted of 40 injections of "mapharsen" (total 2-4 g.) and 16 injections of bismuth subsalicylate (total 0-2 g.) over a period of 26 weeks. The present article analyses the results in 3,000 patients, of whom 1,330 were in the serum-negative primary, 1,207 in the serum-positive primary, and 463 in the secondary stage. Toxic reactions occurred in 63 patients and were mostly gastro-intestinal or pyrexial; there were no deaths; and in only 2 cases, 1 of jaundice and 1 of dermatitis, was it necessary to abandon arsenical therapy. (It is estimated that the expected mortality rate from this treatment is about 1 in 33,000 cases.) Patients were kept under observation for varying periods up to 3 years, the majority for 12 to 18 months. Serum-negative primary cases showed 98-25% "satisfactory" results; serum-positive primary 94-48% and secondary 84-34%. In the whole series only 18 (0-64%) showed pathological changes in the cerebrospinal fluid; of these, 4 were in group I, 4 in group II, and 10 in group III. Of these tests, 91-1% were carried out during the first 24 months of observation. It is emphasized that the results do not represent the cure rate; with longer observations there might have been more relapses, though, on the other hand, many persistently positive sera might have reverted to negative.  

T. E. Osmond


Although congenital syphilis can be prevented, thousands of infected infants are born in the United States each year. The authors conclude that many syphilitic women do not receive adequate treatment during pregnancy, and believe this failure to be due to the fact that standard methods of antisyphilitic treatment take too long and are too difficult for the average patient. [In Britain congenital syphilis usually follows failure to diagnose maternal syphilis; the known syphilitic mother is usually co-operative, and attends well for 'treatment throughout her pregnancy.] The authors have therefore studied intensive-treatment methods in an attempt to prevent prenatal syphilis, and here report the results in 147 patients, of whom 129 were studied for 3 months or longer after confinement. There were 128 live births, 5 abortions, and 6 stillbirths. The 128 live infants were free from clinical signs of syphilis, and only 1 had persistently positive serological evidence. In 2 cases of stillbirth the fetus showed no pathological evidence of syphilis, and in another it was considered that the fetus had died before treatment was started. One of the abortions was considered to be traumatic, and in another the fetus was thought to be dead before treatment was started.

The treatment schedules used were: (1) 1,200 mg. "mapharsen" by slow intravenous drip over 5 or 8 days combined with 0-2 g. bismuth subsalicylate weekly for 8 weeks; (2) 60 injections of 40,000 units of penicillin at 3-hourly intervals; (3) (a) 1 mg. mapharsen per kilo body weight (maximum of 60 mg. per dose) daily for 8 injections, 10,000 units of penicillin every 3 hours for 60 injections, and 0-2 g. bismuth subsalicylate on the first, fifth, and ninth days; (3) (b) injections of mapharsen on the first, third, fifth, seventh, and ninth days, 16,667 units of penicillin intramuscularly every 3 hours for 72 injections, and 3 injections of 0-2 g. bismuth subsalicylate. The findings justify the authors' conclusion that intensive antisyphilitic treatment even late in pregnancy results in a high proportion of non-syphilitic infants.  

S. M. Laird


Three preparations, representative of the water-soluble, the fat-soluble, and the insoluble types of bismuth compounds, were used for this investigation. The author considers the bismuth preparations as a group to be from one-half to one-third as active as "mapharsen"; and the safety zone between the effective and toxic doses to be from six to eight times greater than that provided by mapharsen.  

V. E. Lloyd


After treatment in hospital with one of five different methods, 539 patients with syphilis were followed up for 6 or more months. The five treatment schedules were: (1) A daily injection of "mapharsen" (usually 0-06 g.) for 6 days a week for twenty doses, together with a weekly injection of 0-2 g. bismuth subsalicylate. A further 8 weekly injections of bismuth after the patient left hospital were advised. (2) Daily injections of mapharsen 6 days a week up to a total of twenty-two injections; injection of 0-2 g. bismuth subsalicylate on the first day of treatment and with every fifth injection of mapharsen. (3) Sixty injections of 40,000 units of penicillin at 3-hourly intervals (total 2,400,000 units in 74 days). A combined treatment—the "8-6-3" schedule—lasting 8 days comprising eight daily injections of mapharsen,
three injections of bismuth subsalicylate, and 10,000 units of penicillin 3-hourly for sixty injections (total 600,000). (5) A modification of (4), the "5–12–3" schedule, consisting of five injections of mapharsen in 9 days, three injections of bismuth subsalicylate, and seventy-two injections of 16,667 units of penicillin at 3-hourly intervals (total 1,200,000).

It was found that none of these five schedules was superior to long-term therapy or intensive arsenerotheraphy. Penicillin alone (3) was the safest, while the "8–6–3" schedule (4) produced two severe but non-fatal cases of arsenical encephalopathy. Further work is needed to determine the optimum combination of penicillin, arsenic, and bismuth required for the effective treatment of syphilis in its various stages.

[While the results are disappointing, they do indicate that the optimum treatment required must be more than that given in the schedules.]

S. M. Laird


After giving two case histories (one fatal) the author points to the danger of treating syphilis with heavy metals during or shortly after an attack of diphtheria, and recommends replacing them in such cases by penicillin.

R. Salin


Dichlorophenarsine hydrochloride is an almost colourless powder first described by the Germans in 1914. It is readily soluble in water, being converted into the arsenoxide and forming a yellowish solution which darkens on oxidation. The maximum standard dose is 0-068 g. for males and 0-045 g. for females. Early trials showed it to be ineffective in human syphilis, but success has since been obtained with buffered solutions and it is manufactured commercially as "chlorarsen.

In the present study 521 patients received from one to forty injections each (total 8,575) of a preparation of dichlorophenarsine hydrochloride buffered with four parts of sodium ascobate. Sixty-two had primary, 116 secondary, and 343 later forms of syphilis. Three treatment schedules were used. To 310 patients the routine treatment was given; this consisted of continuous alternating courses of weekly injections of 0-03 to 0-068 g. of the drug combined with 0-26 g. of bismuth subsalicylate to a total of thirty arsenical and sixty bismuth injections. The doses and the duration of treatment in this schedule were increased by about one-quarter for the latter forms of syphilis. The so-called 26-week Army course was used for 189 patients and the Eagle and Hogan 12-week modified intensive course was employed for 22 patients.

Spirochaetes disappeared as quickly, healing of lesions was as satisfactory, and serological reversal was as rapid as with "mapharsen." There were only 3 cases of serological and no case of infectious relapse. The total absence of the latter is attributed to the incomplete follow-up, information in respect of 206 of the 521 patients being for periods under 6 months.

Seventy-one patients (13-6%) had mild reactions: 52 had nausea and vomiting, 2 nausea and diarrhoea, 1 chills and abdominal pain, 1 abdominal pain alone, 2 dizziness, 4 headache, 2 chills and fever, and 1 each pain in the back, rash, and nitritoid crisis. [The remainder are not listed.]

Three had Herxheimer reactions. Thirty-eight patients were later given the drug without adjuvants and there was no reaction; 6 more received the drug with benzocaine lozenges and 8 with atropine before injection; there were no reactions. While some patients intolerant of the drug subsequently received neoarsphenamine without reaction, 11 patients previously showing reactions to neoarsphenamine tolerated dichlorophenarsine hydrochloride. It is concluded that the drug is a safe and effective arsenical suitable for use instead of mapharsen.

R. R. Willecox


Penicillin experiments were performed with two specimens of penicillin of a potency of 544 and 1,624 units per mg., and of a G content of 88 and 92% respectively. These penicillins, dissolved in isotonic saline solution, were compared in their effect on rabbit syphils with the same penicillins suspended in a mixture of arachis oil and 3% beeswax at a concentration of 10,000 units per ml. All rabbits were inoculated intraticularly with the Nichols strain of Treponema pallidum and all developed orchitis positive on dark-field examination 5 to 6 weeks later. Treatment was then instituted and dark-field examinations performed daily for 3 days and thereafter weekly for 10 weeks; at the end of this time the popliteal lymph-nodes were inoculated into the testicles of fresh animals and these were observed for a minimum of 4 months.

Two rabbits were each given single injections of both penicillins in saline solution in doses of 10,000, 30,000, and 100,000 units per kilo body weight. Though preliminary dark-field tests became negative, all 12 rabbits later relapsed and showed positive lymph node transfers. With the same doses of penicillin in oil-wax, however, a cure was obtained in 3 out of 4 receiving a single injection of 10,000 units per kilo and in all 8 receiving the larger amounts.

When injections were given daily multiple doses of 1,000, 5,000, and 25,000 units per kilo were employed once daily for 8 days. With saline solution, temporary improvement with later
RELATION OF THE SIZE OF THE INOCULUM AND THE AGE OF THE INFECTION TO THE CURATIVE DOSE OF PENICILLIN IN EXPERIMENTAL SPHYSILIS, WITH PARTICULAR REFERENCE TO THE FEASIBILITY OF ITS PROPHYLACTIC USE.

R. R. Willcox

Material used in this study consisted of the Nichols strain of Treponema pallidum passed intratexturally. Inocula were obtained by emulsification of rabbit testicular chancres in 50% rabbit serum and dilution to obtain concentrations of 10^4, 10^5, and 10^6 organisms per ml., 0.2 ml. of the appropriate dilution being injected intracutaneously or intratexturally. Penicillin, in one single intramuscular dose of a suspension in oil and beeswax, was administered 4 hours, 4 days, or 2 weeks after inoculation. At each of these intervals groups of 4 to 11 rabbits were given increasing doses to determine the abortive dose of penicillin required. This latter dose was compared with that necessary to cure animals treated 6 weeks after inoculation and after a lesion had developed. Administration of relatively small doses of penicillin 4 days after inoculation aborted the disease; the preventive dose (PD) varied with the size of inoculum and with the age of the infection. Thus, in animals inoculated with 20, 2,000, and 200,000 spirochetes and treated 4 days later, 200, 500, and 3,500 units per kilo, respectively, were needed to protect half the animals, and the corresponding PD90 dosages were 500, 2,000, and 16,000 units per kilo. With a fixed intratexticular inoculum the PD90s of penicillin remained at a constant level for 4 days. By the end of the second week more than seven times the dosage was required, while by the sixth week, after the appearance of the chancres, more than thirty times the amount was necessary to produce the same results.

The authors consider that administration of penicillin in one single intramuscular dose shortly after contact might prove a successful form of prophylaxis in human infection. In man and rabbit renal clearance of penicillins F, G, and X is maximal, the blood level falls at essentially the same rate, and after intramuscular inoculation there are comparable rates of absorption. Equal dosages per kilo in both species should, therefore, produce similar results on the spirochete. Thus, in the average adult, a single intramuscular injection of 15,000 units in peanut oil and beeswax after, say, 4 days' exposure might effectively abort infection. Even oral administration of three to five times this dose should prove effective. This suggests a new approach to the prophylaxis of syphilis, for if the spirochete multiplies as slowly in man as it does in the rabbit a single dose of penicillin, orally or intramuscularly, should even abort the infection if it is given days after exposure.

M. M. Buchanan


The author studied the effect of penicillin on the serology of 120 military personnel treated at an army hospital for congenital, latent and late syphilis. The comparatively short time of 6 months' observation or more was sufficient to detect the trend of the early pathological changes in response to penicillin. A qualitative Wasserman and a quantitative Kahn test were carried out on the blood serum once a month for the first 6 months, quarterly for the following year, and 6-monthly for a further year. The fluid was examined before penicillin was given and again after 6 months. It will again be examined after 2 years.

The cases were divided into four clinical groups: congenital syphilis, 25; early latent syphilis (known infection within 5 years), 33; latent syphilis (duration unknown), 34; and late symptomatic syphilis, 28. Serological results are ingeniously arranged into four groups of varying stability: (1) low declining titre, (2) high fluctuating titre, (3) high fixed titre (completely resistant to previous treatment), and (4) high titre of unknown stability (not previously treated). Groups 1 and 2, both with fluctuating titres after previous treatment, responded most favourably (71.4% and 94.4%, respectively), while group 3, with fixed titre to arsenic and bismuth, gave little evidence of further improvement (16.1%). Group 4, a mixture of the other groups, showed indifferent success (27.5%). The results in cases with an initially low titre were better after 6 months but the improvement was not maintained and an appreciable number of patients relapsed. The improvement continued for 9 or 12 months in the cases with a high fluctuating titre. Latent syphilis of recent origin responded most, while late syphilis and congenital syphilis responded least. The cerebrospinal fluid was abnormal in 18 cases; only 9 cases had improved of the 15 examined 6 months later, and only 3 among the 9 showed similar improvement in the blood. In this small series the findings in the blood and in the cerebrospinal fluid were not parallel.

As the author states, the analysis is confused because many patients had been treated with arsenic and bismuth before penicillin was given. Again, some patients were given arsenic and bismuth after penicillin; failure in these cases, however, would imply failure after penicillin alone.

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There are the same rates, and after intramuscular dosages produce contact after in human prophylaxis is maximal, 3 weeks, after penicillin remained produce the dosage was 500, 2,000, and 16,000 animals, and increasing doses of the doses of penicillin had developed. The groups of 4 to 11 rabbits 2 simultaneously intramuscular inoculum of 10^4, 10^5, and 10^6, organisms per ml., 0.2 ml. of the appropriate dilution being injected intracutaneously or intratexturally. Penicillin, in one single intramuscular dose of a suspension in oil and beeswax, was administered 4 hours, 4 days, or 2 weeks after inoculation. At each of these intervals groups of 4 to 11 rabbits were given increasing doses to determine the abortive dose of penicillin required. This latter dose was compared with that necessary to cure animals treated 6 weeks after inoculation and after a lesion had developed. Administration of relatively small doses of penicillin 4 days after inoculation aborted the disease; the preventive dose (PD) varied with the size of inoculum and with the age of the infection. Thus, in animals inoculated with 20, 2,000, and 200,000 spirochetes and treated 4 days later, 200, 500, and 3,500 units per kilo, respectively, were needed to protect half the animals, and the corresponding PD90 dosages were 500, 2,000, and 16,000 units per kilo. With a fixed intratexticular inoculum the PD90s of penicillin remained at a constant level for 4 days. By the end of the second week more than seven times the dosage was required, while by the sixth week, after the appearance of the chancres, more than thirty times the amount was necessary to produce the same results.

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As the author states, the analysis is confused because many patients had been treated with arsenic and bismuth before penicillin was given. Again, some patients were given arsenic and bismuth after penicillin; failure in these cases, however, would imply failure after penicillin alone.
Patients had a total dosage of 2,400,000, 4,000,000, and 4,800,000 units of commercial penicillin in aqueous solution in 3-hourly injections of 40,000 units. Six of the 25 congenital syphilitic patients improved. All the 33 cases with early latent syphilis had had arsenic and bismuth previously; 26 (78.6%) improved. As would be expected, results were less satisfactory in patients with latent syphilis of unknown duration: 16 out of 34 responded. At the end of 6 months only 8 (28.6%) of the 28 patients with late, mostly gummatus, syphilis had improved.

The marked difference in the total dosage of penicillin in the three schedules of treatment must affect the value of the comparative figures in this study; accurate comparisons can hardly be made, since the dosage received by the various categories of patients is omitted. T. Aney-Davies


The authors treated 236 neurosyphilitic patients with 3,000,000 units of penicillin between Feb. 1944, and April, 1946, and report the results in 100 who have been followed for a year or more. When fever therapy was also used the amount was usually about half that usually administered. The following are some of the results obtained: Penicillin plus malaria caused "improvement" in 66% of patients; penicillin fever with cabinet, 52%; and penicillin alone, 58%. Of the 100 patients 36 required re-treatment; it made little difference whether the penicillin was given 2-, 3-, or 4-hourly or whether it extended over 5, 7½, 10, or 15 days, though the authors state that the 15-day patients less often required re-treatment. Of 75 patients with general paralysis of the insane treated by one or other of the three methods, 69% were improved and 38% required re-treatment. As regards the spinal fluid, the cells tended to return to normal in 3 to 6 months, the protein in 6 to 9 months, and the Wassermann reaction more slowly, only 11 patients giving negative reactions. There were 12 deaths among the 236 patients, 6 of which were due to G.P.I. and the rest to causes other than syphilis; in 1 case of G.P.I. it was thought that penicillin contributed to the fatal result. It is concluded that the amount of treatment employed was adequate for late symptomatic syphilis, and the amount of penicillin has now been doubled.

[B]The Wassermann reaction is stated to have been "carried out in six dilutions of spinal fluid as follows: 0-1, 0-2, 0-4, 0-6, 0-8, and 1-0 c.c.m." These are not dilutions but absolute quantities.]

T. E. Osmond


The question of false positive serological reactions after sulphonamide therapy was investi-
ABSTRACTS

SYphilis (Pathology)


The author reports investigations designed to study the immunizing properties of syphilitic antibody when injected into animals, and to compare the reactions of the immune sera thus produced to the homologous antigen and to various normal serum proteins.

Strongly positive syphilitic serum was flocculated with the antigen as described by Wadsworth and Brown (J. Immunol., 1936, 31, 155), 0.5 to 1 volume of antigen per volume of inactivated serum proving experimentally to be the maximal flocculating dose; the floccules were centrifuged and washed four times with 10 to 15 ml. quantities of saline. The resulting dense suspensions of washed floccules were used for immunization. Rabbits were injected intravenously 2 to 3 times weekly for 3 to 4 weeks and bled 1 week after the last injection. Complement-fixation and precipitate tests were performed before and after absorption with the following antigens: strongly positive inactivated syphilitic serum; pooled inactivated normal serum; Wasserman antigen prepared by Kolmer's method; serum globulin and serum albumin; water-insoluble and water-soluble globulins; and purified syphilitic antibody.

The results showed that when such washed floccules are injected into rabbits two different antibodies are produced which can be differentiated from each other by absorption. One is directed against the lipoid antigens of the heart extract and is of a similar specificity to the syphilitic antibody, and the other is directed against the syphilitic antibody which is combined with the lipoid antigen in the floccules. The specificity of the latter antibody is not characteristic of the specific reactive groupings of the exciting antigen, as it reacts just as well with normal human serum as with strongly Wassermann-positive serum. A comparison of the reactivity of the various protein fractions with the immune serum showed that practically all the reactive antigenic material is present in the globulin fraction. Within this fraction the reactive antigen was mainly concentrated in the water-insoluble portion. The author concludes that the specificity of the syphilitic antibody appears to be the same as that of certain normal serum globulins. The syphilitic antibody seems to be more closely related to the euglobulin than to the pseudoglobulin fraction.

A. Henderson-Begg


The standard and quantitative Kahn, Kolmer, and Kline tests, and the differential temperature technique were employed in this inquiry. A group of 23 rabbits served as a control. The second group, studied as normals for some weeks, were then inoculated intrathecally with Treponema pallidum, and all were tested at weekly intervals for from 7 to 51 weeks. All 23 normal rabbits showed some type of immune body at one time or another: the titre of the immune body was low and variable. The 52 inoculated animals were observed for periods of up to 51 weeks. Only 2 showed the general biological type of reaction throughout. The remainder showed various combinations of two or all three types of antigen. No correlation was found between their titre and type of immune body present in syphilitic rabbits. The differential temperature Kahn verification test did not show a quantitative difference between the immune body of normal and of syphilitic animals.

V. E. Lloyd


The testicles of rabbits infected with the Nichols strain of S. pallida were ground up and injected into the brain and peritoneal cavity of mice; brain and organ emulsions of the mice infected a rabbit after 60 days. A second, third, and fourth mouse passage the organs but not the brains were found to be infective; a fifth passage was attempted, but the rabbit showed no clinical evidence of syphilis though it developed a Kahn reaction of 80 units and proved resistant to inoculation at a later date. The intervals of time between inoculation of the rabbits with mouse material and the development of syphilitic lesions...
were 27, 58, 48, and 81 days respectively, suggesting that the spirochetes tended to diminish in virulence with successive transfers. In none of the mouse organs could spirochetes be demonstrated by dark-ground examination, staining with hema-
toxilin-eosin, or the Warthin-Starry silver impreg-
nation method. This suggests that the spirochetes
in the mice had assumed an infra-visible or
granular form. It is interesting to note that the
organs (spleens and gonads) of the mice were
capable of carrying the infection much longer than
the brains. 

T. E. Osmond

False Positive Tests for Syphilis. A Study of their
Incidence in Sporozoite-induced Vivax Malaria.
med. Ass., 133, 1001.

Ninety male volunteers with no evidence of
syphilis were inoculated by mosquito bite with
sporozoites of vivax malaria. Specimens of serum
were obtained from each patient before inoculation,
at daily intervals during attacks, two or three
times weekly after attacks, and at minimal weekly
intervals for a total period of 18 months. The
specimens were subjected to several tests for syphilis,
including the standard Kahn, the Hinton flou-
culation, the Kline diagnostic and the Kline exclusion,
the Mazzini and the Boerner-Jones-Lukens micro-
floucculation tests, and a newly developed micro-
floucculation test with a cardiolipin antigen (Rein
and Bossak): 44,958 tests were carried out on a
total of 7,493 sera.

Of the 90 patients, 57% developed false-positive
reactions with one or more tests, but the Hinton
gave only doubtful reactions over a 2-day period,
and Rein and Bossak's remained negative through-
out. The standard Kahn and Kline exclusion
tests gave the strongest non-specific reactions.
Most of the sera were subjected to several comple-
ment fixation tests including the Kolmer-Wass-
errnan test. About the same number of false-positive
reactions were obtained as with the more usual
floucculation tests.

G. L. M. McElligott

The Weltmann Serum Coagulation Reaction in
Syph., 31, 216.

The Weltmann serum coagulation reaction is a
non-specific empirical test, comparable with the
erthrocyte sedimentation rate, giving consistent
values in the healthy and a definite range of
deviation in certain pathological states such as
acute infections. It is apparently unaffected by
dehydration, acidosis, alkalosis, anemia, or allergic
states, and, while it bears no relation to the
albumin-globulin ratio, there is a lower reading
when the α-globulin level is high and vice versa.

The test is performed by mixing in ten tubes
0·05 ml. of the blood serum to be tested with
2·5 ml. of serial dilutions of from 0·1 to 0·01 ml.
of 10% calcium chloride solution. The tubes are
placed in a boiling water bath for 15 minutes
before the number of tubes in which coagulation
has occurred is ascertained. The normal is six,
and a shift to the left is said to have occurred if
less, and to the right if more, are involved.
Generally speaking, inflammations and infections
cause a shift to the left, and fibrosis and degenera-
tions to the right.

The serum of 610 syphilitic persons was ex-
amined; 132 had primary, 148 secondary, 162
latent, 34 congenital, and 21 cardiovascular
syphilis, while 113 had neurosyphilis. The average
readings for all groups but two were in the range
7·0 to 7·4; the reading for neurosyphilis was
6·3 and for prenatal syphilis 5·7. Of patients with
early syphilis, 32 showed no appreciable change
in the reaction after treatment for 6 months with
arsenic and bismuth, as did 18 of the cases of
neurosyphilis treated with fever, and 40 given
penicillin. It is concluded that while a slight
shift to the right can be observed in all forms of
syphilis except congenital, the reaction is
non-specific.

R. R. Wilcox

GONORRHEA (Therapeutic)

Arthritis in the Mediterranean Theatre of Opera-
tions. III. Clinical Description of Infectious and
Other Types of Arthritis. Short, C. L. (1947).

Infective types of joint disease in the Mediterr-
anean theatre are reviewed. At the Twelfth General
Hospital 20 out of 173 cases of dysentery developed
arthritis, and of these 10 also developed urethritis
or conjunctivitis or both (Reiter's syndrome).
The author suggests that the dysentery merely
provided a portal of entry for the causative agent
of Reiter's syndrome, and he even regards the
arthritis following dysentery as due to a secondary
invader. He finds support for this view in the fact
that neither the arthritis nor the urethritis reacts
to chemotherapy, to which dysentery reacts readily.

Gonococcal arthritis was treated by sulpha-
thiazole combined with intra-articular penicillin.
Cases which failed to respond to this treatment are
regarded as being cases of rheumatoid arthritis
rather than of true gonococcal arthritis. Meningo-
coccal arthritis was found to be little affected by
chemotherapy or penicillin, but all cases recovered.

H. F. Turney

OTHER VENERAL DISEASE

CONDITIONS

Rickettsial Forms in Pus from Lymphogranuloma
Venerum. (Sul repertio di forme Rickettsiose
nel pus porodenitico.) D'Ignazio, C., and
Ig. trop., 6, 243.

By inoculating pus from lymphogranuloma
venerum anally into lice, following Weigl's
technique for infecting lice with rickettsiae, the
author claims to have obtained growth of rickettsial
forms from the virus of lymphogranuloma
venerum.

[Insufficient steps appear to have been taken to
exclude infection of the lice with Rickettsiae type
Rocha Lima, which are common commensals in
the intestine of lice in Africa.]

G. M. Findlay

Antimonal preparations are well established in the treatment of granuloma inguinale, but the lesions may recur even if local therapy is also employed. Penicillin seems of little value. Streptomycin has proved so effective in the treatment of 23 cases that the authors consider a preliminary report justified. The condition was diagnosed by the finding of Donovan bodies, either in smears or in biopsy sections. No other drug was used. Doses ranged from 0.3 g. to 1 g. daily; treatment was given every 4 hours and lasted from 6 to 46 days. Healing was usually centripetal, and Donovan bodies could not be demonstrated in smears taken from 5 to 9 days after treatment had started; the moist ulcerated areas around the scrotum took longest to heal, but were ultimately covered by scar tissue.

Toxic reactions occurred in 2 patients after 10 days’ treatment. One developed a maculopapular rash on the limbs and lower jaw, with a fine vesicular eruption and edema of the lips; none of the lesions responded to "benadryl" (100 mg. daily). The other patient complained of a mild burning of the conjunctiva, which did not reappear when the drug was renewed after a short pause.

Relapses may occur, even when as much as 28 g. has been given. In spite of this, streptomycin is undoubtedly the most effective agent known today for treating granuloma inguinale.

T. E. C. Early

PUBLIC HEALTH


This article describes the procedure in obtaining a premarital blood test certificate and tabulates the numerical results of the application of this law in Connecticut. The objectives of the law are: (1) to prevent an individual with syphilis from infecting the marital partner; (2) to prevent congenital syphilis; and (3) to uncover syphilis so that proper treatment may be given. Blood samples can be taken by any licensed physician and sent for test to an approved laboratory. If the result is satisfactory a certificate is signed by the physician and by the applicant in his presence. This is valid for 40 days and must be produced to obtain a marriage licence. The physician does not sign if the applicant is found to have syphilis in a communicable stage. The disease is not usually infectious to the marital partner after 4 or 5 years even in the absence of treatment. A woman with untreated syphilis is always potentially dangerous to her offspring. The rate of positive individuals varied in the 10 years between 9.7 and 19.1 per thousand. A great many were unaware that they were infected, and often the physician was able to sign the certificate as the disease was not in a communicable form.

[The great value of premarital blood tests in unmasking syphilis is well illustrated.]

James Marshall