**ABSTRACTS**

This section of the Journal is published in collaboration with the two abstracting Journals, ABSTRACTS OF WORLD MEDICINE and OPHTHALMIC LITERATURE, published by the British Medical Association. The abstracts are divided into the following sections: Syphilis (Clinical, Therapy, Serology, Pathology, Experimental), Gonorrhoea, Non-Gonococcal Urethritis and Allied Conditions, Chemotherapy, Public Health and Social Aspects, 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 (Clinical)**


This is a well illustrated short study of endemic syphilis as seen in the Bechuanaland Protectorate, especially amongst the peoples living in the Kalahari Desert. Among 7,228 individuals examined the incidence of active cases was 3.2 per cent. and that of latent cases 51 per cent. The disease is predominantly a childhood condition, about 80 per cent. of early cases occurring under the age of 15 years. Primary lesions are rarely observed. Aching in the long bones due to periostitis is usually the earliest symptom, and condylomata lata and mucous patches are frequent. After a period of a few weeks up to several months the early lesions disappear and the disease becomes latent, and in the majority of cases, though serological tests for syphilis give positive results, no clinical signs develop. In a few cases late lesions develop; these consist mainly of skin ulcerations, bone lesions usually affecting the long bones, and nasopharyngeal lesions. Extensive scarring and deformity may result. Cardiovascular involvement—usually aortic incompetence—may occur, but is rare, as also is infection of the central nervous system. Congenital syphilis is hardly ever seen.

Treatment is with procaine benzylpenicillin in oil with 2 per cent. aluminium monostearate, with which good results have been obtained. Simultaneously with drug therapy efforts are made to improve the social, hygienic, and economic condition of the people. A mass treatment campaign, started in 1953 and completed in 1957, appears to have been very effective, but a few isolated foci of cases are still being found and treated during re-survey observations. This is regarded as most important to prevent the disease becoming endemic again.

Robert Lees


The chest radiograms of 83 patients with syphilitic aortic incompetence have been studied. The incidence of linear calcification of the ascending aorta was 39 per cent. and this can be accepted as a reliable and almost specific sign of syphilitic aortitis. Special radiographic techniques are often necessary to demonstrate calcification of the ascending aorta in its earliest form. The sign is of particular value in determining the aetiology of aortic incompetence and should be considered in conjunction with the clinical features, the serological reactions, and the erythrocyte sedimentation rate.—[Author's summary.]
the cardio-vascular system in all cases of syphilis, and point out that it is particularly in cases of seroresistant latent syphilis that periodical examinations have the greatest value.

R. D. Catterall


Examination of the eyes of the 125 treated syphilis previously reported [see previous Abstract] showed that 21 (16.8 per cent.) had ocular lesions due to syphilis. (Patients showing the Argyll Robertson pupil reaction only were not included.) In nine of these patients the ocular lesion had been present when treatment was started; of 33 patients with tarry syphilis the ocular involvement, present in six cases, was found only on examination by an ophthalmologist. Of a group of 36 patients with apparent latent syphilis, six were shown to have ocular lesions on ophthalmological examination, while of 47 patients whose serological tests had become negative following treatment, evidence of healed eye lesions was found in two. The authors stress the value of detailed examination of the eyes in all cases of syphilis, and point out the value of healed lesions of the eyes in making a retrospective diagnosis.

R. D. Catterall


This paper from Blackburn Royal Infirmary, Lancashire, deals with thirteen cases of syphilitic aortic aneurysm occurring in seven women and six men aged between 55 and 73 years treated solely with penicillin. The periods of observation after treatment varied between 20 and 74 months. In nine cases the aneurysm was saccular and in four fusiform, and in all clinical and serological tests for syphilis were positive. When first seen the patients were already symptomatic, pain, dysphagia, and hoarseness being the most common complaints, but nevertheless the diagnosis was always confirmed radiologically. It is of interest that two patients showed signs of obstruction of the superior vena cava, four of aortic incompetence, and three of concomitant neurosyphilis. No patient had previously received any treatment and, though a few of the earlier cases were given full doses of potassium iodide for 3 weeks before starting penicillin treatment, this practice was soon abandoned. Each patient received 600,000 units of procaine penicillin daily to a total of 20 million units, but no patient was re-treated. A Herxheimer reaction with hypotension and associated weakness occurred in two patients, but both recovered in a few hours.

Of the thirteen patients, three died during the follow-up period, but in no case was death due to rupture of the aneurysm; two of these patients were by then aged 70 and 74 respectively, and the third, aged 55, who also had aortic incompetence, died from bronchopneumonia 4 years after treatment. Of the remaining ten, nine are leading nearly normal lives and symptoms have mostly disappeared. The authors conclude that penicillin relieves many of the symptoms caused by syphilitic aneurysm and that, in view of the fact that all the patients treated had definite symptoms suggesting that death might occur within 1 or 2 years, they suggest that surgery will have no further part to play in the treatment of this condition.

G. L. M. McElligott


SYPHILIS (Therapy).


In this extensive survey of the results of penicillin treatment in general paralysis of the insane Dr. Hahn of Johns Hopkins Hospital, Baltimore, has had the cooperation of workers at seven other clinics in the United States, the largest contributing centres being the Boston Psychopathic Hospital with 367 cases and St. Elizabeths Hospital, Washington, D.C., with 188. In all, a total of 1,086 patients were included in the study during the decade 1943–53.

A high degree of uniformity was observed in the abstracting of records and in the definition of the type of paretic psychosis present at the time when “study treatment” with penicillin was started. By “study treatment” is meant “the treatment episode which placed the patient in the study group”. For some patients this was their first treatment for neurosyphilis, whereas others had previously received chemotherapy or penicillin therapy which, in the view of the clinician, had been insufficient. A further course of penicillin was given after the “study treatment” in 289 cases, either because it was thought that the disease process was progressing or that biological cure had not been attained, or to study the possible effect of larger doses on the serological reactions of the cerebrospinal fluid (C.S.F.). The patients were observed 3, 6 and 12 months after “study treatment” and yearly thereafter, 91.5 per cent. being followed up for one year or more. Of the 808 patients treated between 1943 and 1947, nearly half were
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given penicillin plus fever compared with only 22 per cent. of the 278 treated during 1948–53, fever therapy having been discarded altogether since 1950.

After a careful analysis of the clinical material in respect of such factors as race, age of incidence, C.S.F. data, and severity of the psychosis some interesting observations are presented with regard to work status at the time of “study treatment”. Only 2-9 per cent. of the 611 patients whose degree of paretic involvement was classified as “severe” were living at home and able to work compared with 33-3 per cent. of the 234 with “moderate” and 52-3 per cent. of the 241 with “mild” involvement. The cell content of the C.S.F. was less than 5 per c.mm. in 22-7 per cent. of cases and the protein content less than 40 mg. per 100 ml. in 16-9 per cent.; this relative frequency of findings suggesting inactivity is best explained by previous treatment, since in 85 per cent. of previously untreated cases the cell count and protein content were above these limits. Incidentally, in no less than 93 cases (8-6 per cent.) the Wassermann reaction of the blood was negative, whereas that of the C.S.F. was “almost always” positive. [In the experience of the abstracter the reaction of the C.S.F. is positive in 100 per cent. of untreated paretics.]

For “study treatment” aqueous penicillin was administered in 85 per cent. of cases, procaine penicillin in 12 per cent., and penicillin in oil and wax in the remaining 3 per cent.) The dosage varied from 2-4 to more than 6 mega units. Patients with severe paresis were given higher doses and there was a tendency to add fever therapy to penicillin in this group. Clinical Herxheimer reactions were significantly more frequent among the 629 patients given penicillin only (5-8 per cent.) than among the 457 treated with penicillin plus fever (1-8 per cent.).

In discussing the results of treatment the authors confine their observations to two measurements of the outcome; the clinical status of the psychosis and the patient’s work status in relation to the status before treatment, the favourable effects of penicillin on the C.S.F. in neurosyphilis having already been documented (Hahn and others, Amer. J. Syph., 1951, 35, 433; Abstr. Wild Med., 1951, 10, 638; A.M.A. Arch. Derm., 1956, 74, 355 and 367; Abstr. Wild Med., 1957, 21, 249). Great importance is attached to work status as a means of evaluating treatment, though the influence of interest and help from relatives and availability of vocational rehabilitation and suitable work is emphasized. Of 148 patients with severe paresis before treatment whose work status 5 years after treatment was known, 55 (37 per cent.) were working compared with fifty (82 per cent.) of 61 with moderate paresis and 56 (92 per cent.) of 61 with mild paresis. The severity of the psychosis at the time of treatment is thus of considerable prognostic import, and more so than the type of psychosis. It was also found that those patients with a high cell count in the C.S.F., indicating an acute inflammatory process, were more susceptible to treatment than those with a normal count. No appreciable difference in the outcome in respect of clinical or work status was found between patients receiving penicillin alone and those receiving penicillin plus fever. Significant numbers of cases in each treatment category were followed up for 5 years, when the proportions of severe, moderate, and mild cases showing improvement were practically identical in the two groups. It is therefore concluded that “the possible additive effects of fever therapy are not sufficient to justify its use in any significant number of patients”. The optimum curative dose of penicillin was found to be 6 mega units and no more.

The problem of retreatment is discussed, two indications being given: clinical progression of the disease and insufficient improvement in clinical status or laboratory findings. However, evidence is adduced to show that whereas in the case of a patient who has previously responded to a subcurative dose, such as 2-5 mega units, with subsequent clinical progression a second course of treatment with a higher dosage is likely to prove beneficial, those patients whose C.S.F. findings indicate inactivity and who have already received 6 mega units or more without benefit usually fail to improve with further treatment, suggesting that in such cases the process is advanced and static.

[This is a valuable paper. It reports a most carefully planned study which is a model of clinical research on a grand scale—probably the last of its kind on the treatment of general paralysis, now a disappearing disease. Though the number of cases of general paresis seen nowadays are few and far between, there are many useful lessons to be learnt from the author’s findings, such as their conclusions as to the optimum dosage of penicillin and their virtual rejection of malaria therapy with all its hazards. Their conclusions regarding retreatment, which amply confirm those reached by Dattner and others (Amer. J. Syph., 1952, 36, 179), should be a warning to future clinicians of the need to assess their cases with care and to avoid the futility of unnecessary further treatment and raising the false hopes of relatives.]

W. D. Nicol


The Two Therapeutic Phases of Syphilitic Disease. (La maladie syphilitique et ses deux phases thérapeutiques.) DUREL, P. (1959). Presse méd., 67, 1575. 4 figs, 17 refs.

SYphilis (Serology)


In this paper from the Municipal Hospital, Karlsruhe, a spirochaetal agglutination (S.A.) test developed on the basis of observations made by Hoffman and Prowazek in 1906 is described and the results obtained with cerebrospinal fluid (C.S.F.) are compared with those of the Wassermann and Meinicke reactions and complement-
fixation tests with citochol and cardiolipin antigens. It is stated that although the result of the S.A. test is usually related to the globulin content of the fluid, the relationship does not appear to be so close as that encountered, for instance, in the Wassermann reaction. The active antigen seems to be a specific treponemal protein. [For details of the technique the original paper should be consulted.]

In 658 of the 740 cases in which the tests were performed in parallel the result of the S.A. test was in complete agreement with those of the other tests used (621 negative, 37 positive). In 82 cases discordant results were obtained with the different tests, but those of the S.A. test gave the highest degree of correlation with the clinical diagnosis. The S.A. test gave a false positive result in only 6 cases, 3 of which were among the 10 cases of bacterial or viral meningitis tested, in which the globulin level of the C.S.F. was increased, and one a case of cirrhosis. One false negative result was noted.

It is considered that the simplicity of the method recommends it for more general use. Allene Scott


The author, working at the Paul Ehrlich Institute, Frankfurt-am-Main, has demonstrated that an albumin fraction with marked serological activity can be extracted from virulent *Treponema pallidum* of the Nichols strain. This fraction was extracted from syphilitic rabbit sera by the deoxycholate method described by Portnoy and Magnuson (J. Immunol., 1955, 75, 348; Abstr. Wild Med., 1956, 19, 442). Electrophoretic studies showed that the extracted albumin solution was not homogeneous, but could be divided into five fractions, of which three were serologically active. Details of the techniques used are clearly described and the European literature on treponemal antigens is reviewed. R. D. Cuttall


In experiments carried out at the University of North Carolina specimens of pooled human syphilitic serum were absorbed with Venerial Disease Reference Laboratory (VDRL) slide-test antigen, with protein antigens prepared from the Reiter cultivable treponeme and from virulent *Treponema pallidum* by the method of D'Alessandro and Dardanoni (Amer. J. Syph., 1953, 37, 137), and with the antigen used in the *T. pallidum* complement-fixation (TPCF) test of Portnoy and Magnuson. After incubation with the antigen each specimen was filtered and the filtrate subjected to the VDRL and TPCF tests and to complement-fixation tests with the two other antigens used for absorption, the results being compared with those of the same tests carried out on unabsorbed serum.

Absorption of the serum with VDRL antigen completely removed reactivity with this antigen, but left the titres in the other tests unaltered, showing that the treponemal antigens used react with substances distinct from the reagin present in syphilitic serum. Absorption with protein from virulent *T. pallidum* removed reactivity with this protein and with the protein prepared from the Reiter treponeme, but did not affect the titre of the TPCF or VDRL reaction. Absorption of the serum with protein from the Reiter treponeme abolished reactivity with this antigen, but left the titres of the other reactions unchanged. Rabbits injected intravenously with Reiter protein antigen developed antibodies to this protein and, to a lower titre, to the protein from virulent *T. pallidum*, but their serum gave negative results with the VDRL and TPCF tests.

The authors conclude that the demonstration that the Reiter treponeme shares a common antigen with virulent *T. pallidum* strengthens the position of the Reiter protein complement-fixation test as a specific serological test for syphilis.

A. E. Wilkinson


In tests carried out at the California State Department of Health, Berkeley, California, on 509 sera presenting diagnostic problems the results of the treponemal immobilization (TPI) and treponemal complement-fixation (TPCF) tests were found to be at variance in 139 instances. The two tests were repeated on the same specimens of serum and the results analysed. The TPI test gave exactly reproducible results in 81 per cent. of cases, but the TPCF test in only 50 per cent. With the TPI test none showed complete reversal from positive to negative or vice versa on retesting, but discrepancies occurred with weakly reactive sera, only about half of which gave completely reproducible results on the second testing. In contrast, the reproducibility of the TPCF test was poor: fifteen sera gave results in complete disagreement on retesting, fourteen of these showing a reversal from a negative result on the first test to positive at the second examination. Only twelve out of 44 sera which were initially found to be weakly reactive gave the same result when retested.

In a second experiment duplicate specimens of 63 unselected sera were examined by the two tests on two test days. Exact reproduction of results was obtained in 91 per cent. with the TPI and 83 per cent. with the TPCF test. The sera which showed disagreement were borderline reactors with results varying between negative and weakly reactive or between weakly reactive and positive. In 43 satisfactory batches of TPI tests the 50 per cent. immobilization titre of the positive control serum did not vary by more than one twofold dilution.
The authors conclude that the TPI test is more reproducible than the TPCF test, particularly when weakly reactive sera are examined.

A. E. Wilkinson


How Good is the Reiter Protein Complement-Fixation Test for Syphilis? Brown, W. J., and Bunch, W. L., Jr. (1959). StH. med. J. (Bham, Ala.), 52, 783. 5 figs.


SYPHILIS (Pathology)


A case of syphilitic optic atrophy is described in which the nerve fibre degeneration was characterized by pearl-string-like swellings. The axons between the swellings disintegrated, while the swellings became hyalinized and persisted as round hyaline bodies.

J. R. Hudson

SYPHILIS (Experimental)


GONORRHOEA


In this study the authors have investigated at the Venereal Diseases Clinic of the Harlem Hospital, New York, the efficacy of the phosphate complex salt of tetracycline, which is stated to be absorbed more rapidly and efficiently than the hydrochloride by oral administration, in the treatment of 113 male patients with acute gonococcal urethritis. Three treatment schedules were employed, 27 men receiving 0.75 g. in three divided doses of 250 mg. each, 52 a total of 1.0 g. in four doses, and 34 1.5 g. in three doses each of 500 mg., the whole of each dose being given in one day. The criterion of cure was the finding of a negative smear and culture on two occasions during an observation period of not less than 6 days after treatment.

In the group receiving 0.75 g. there were four failures among the twenty followed up (80 per cent. cured). Among 36 receiving 1 g. there were four failures, but two of these may have been re-infections (94.4 per cent. cured). Of the eighteen cases followed up after receiving 1.5 g. all were cured. No side-effects were noted in any case. These results correspond closely with the authors' previous series treated with tetracycline hydrochloride, in which the cure rate was 90 per cent. It is concluded that 1 g. of the phosphate complex is the minimal effective dose.

Douglas J. Campbell


In view of the report by Welch and others (Antibiott. Med., 1958, 5, 52) and other workers that the addition of glucosamine to tetracycline produces higher serum concentrations of the antibiotic than does tetracycline alone, the authors have tried this new medication in the treatment of 101 cases of acute gonococcal urethritis in men attending the Venereal Diseases Clinic, Harlem Hospital, New York.

Of the 81 cases adequately followed, among eight given 500 mg. of the drug in one day there were two failures, among 26 given 750 mg. there were five failures, among 35 given 1,000 mg. there were two failures, and among twelve given 1,500 mg. there were no failures. Thus a dosage of at least 1 g. produced a cure rate of over 94 per cent., a rate comparable to that achieved with 1.5 g. tetracycline hydrochloride in the authors' previous series reviewed in 1954 [and also similar to the results obtained by the same authors with 1 g. tetracycline phosphate complex (see previous Abstract)].

As they point out, a decrease of one third in the small doses of antibiotic required to cure gonorrhoea in the male may not appear to be of much significance, but does assume economic importance in a clinic where hundreds of cases are treated annually.

Douglas J. Campbell


The trial of the prophylactic use of a solution of an ointment of sodium sulphacetamide and 1 per cent. silver nitrate drops was undertaken on 1,000 newborn children in each group. The incidence of bacterial and viral infection among the children receiving silver nitrate was lower than among those in the other series but the
reaction to the silver nitrate was more marked that that to other medicines.

Adequate pre-natal care of the mother may be the most important factor contributing to the reduction of ophthalmia neonatorum. C. McCulloch

Prophylaxis of Ophthalmoblemorrhoea. (Zur Prophylaxe der Neugeborenenblennorrhoe.)


Inquiry into the current method of prophylaxis of ophthalmoblemorrhoea at different European Maternity Hospitals has shown great diversity, ranging from silver preparations to antibiotics. After a critical review, a new method is advocated in using Desogen (Geigy), a quaternary ammonium-compound, in 0.5 per cent. solution as eyedrops. M. Klein


Ophthalmia Neonatorum; Is Prophylaxis Necessary?


The authors suspended the use of 1 per cent. silver nitrate prophylaxis for 6 months. In this period the incidence of sticky eyes was 3.2 per cent. of 1,974 infants. Of the 64 infants, four produced a culture of N. gonorrhoeae.

In the previous 25 years of prophylaxis, only ten cases on gonococcal conjunctivitis had occurred. Prophylaxis has been re-introduced at the authors' hospital.

W. E. S. Bain

Comparative Radiological Study of Reiter's Disease, Rheumatoid Arthritis, and Ankylosing Spondylitis.


Of the 53 patients with Reiter's syndrome previously reported (Murray and others, 1958, J. Fac. Radiol., 9, 37; Abstr. Wld Med., 1958, 24, 238), the authors, working at the London Hospital, have compared the radiological findings in 25 with the corresponding findings in 81 cases of rheumatoid arthritis and 38 of ankylosing spondylitis. In all cases radiographs of the hands, feet, ankles (including the calcaneum), and pelvis were examined. Although the condition could not be differentiated radiologically in every case the following features were considered to be of value.

(1) In Reiter's disease exuberant periosteal new bone formation on the plantar surface of the calcaneum was considered to be characteristic. (A critical re-examination of three patients with rheumatoid and two with ankylosing spondylitis showing this feature indicated that in these cases the initial diagnosis was beyond suspicion in only one, and in this one case it was thought that Reiter's disease was present as well.) Of the patients with Reiter's disease this sign was noted in 20 per cent. Similar but less marked changes may be observed round the wrist. Destructive joint lesions are common in the feet, but rare in the hands. Sacroiliitis occurred in 32 per cent., and became more common with increasing duration of the disease, but unlike the other lesions it was usually symmetrical. Generalized osteoporosis was not a customary feature in this disease.

(2) In the radiographs of patients with rheumatoid arthritis the usual findings were confirmed. Peripheral arthropathy was slightly more common in the hands than in the feet and was accompanied by generalized osteoporosis. Sacroiliitis did occur in 12 per cent. of these cases, but was later in onset and always less severe than in the third group.

(3) Ankylosing spondylitis, in which the predominant and early involvement of the sacroiliac joints, observed in all cases, was found to be associated with peripheral
arthropathy in the feet in 24 per cent. and in the hands in only 11 per cent. of these patients. In all three conditions posterior erosions of the calcaneum were sometimes seen and periosteal new bone formation was common round the malleoli. Useful tables of distribution of the lesions in these conditions are given. Attention is also drawn to the age distribution; thus ankylosing spondylitis is earlier in onset, on the whole, than is rheumatoid arthritis, while Reiter's disease was found to occur in patients between the ages of 15 and 75 years, with its highest incidence in the fourth and fifth decades.

R. O. Murray


The author reports eighty cases of post-dysenteric Reiter's syndrome occurring in military personnel in Tunisia. The incidence of the syndrome followed closely the incidence of dysentery from June to December and affected mainly young men who had arrived recently from France. Urethritis, mostly abacterial in nature, was present in 80 per cent., eye involvement in 94 per cent., and arthritis in 96 per cent. of cases. The arthritis affected mostly the lower limbs, especially the knees. In the more severe cases marked muscular wasting, particularly of the quadriceps femoris, became one of the most intractable features of the syndrome. In 4 cases there were transient cardiac murmurs, with abnormal electrocardiographic findings. There was a well marked increase in the $\alpha_1$-globulin fraction of the serum proteins in no less than 94 per cent. of cases; a rise in the $\gamma$-globulin level was found in 60 per cent. of cases.

Aureomycin appeared to prevent later complications such as ankylosing spondylitis if given early; once the syndrome was well established, however, antibiotics proved ineffective. Diacetylpyrocatechol given in combination with prednisone was found to be the most effective treatment of the established condition.

G. W. Csonka


PUBLIC HEALTH AND SOCIAL ASPECTS


MISCELLANEOUS


At the Venereal Diseases Clinic of Harlem Hospital, New York, the authors had found the tetracycline phosphate complex to be efficacious in the treatment of acute gonococcal urethritis in the male. They have now used this same drug to treat other types of cases referred to the clinic.

Whereas 1 g. of the complex cured over 90 per cent. of cases of acute gonococcal urethritis, in the present series one case of Donovonosis required 39 g. of the drug, one case of chancroid required 14 g., while eight cases of lymphogranuloma (all showing inguinal adenopathy and all but one a positive result in the Frei test) required from 7 to 24 g. One case of staphylococcal scrotal abscess, with a positive reaction to the Frei and complement-fixation tests, responded to 6 g. (The authors do not use the term "cure" for these cases but rather "healing." They observed no allergic or toxic reactions in any of the present cases, and conclude that the tetracycline phosphate complex can be successfully employed in the treatment of various infections, other than syphilis, encountered in a venereal diseases clinic.

Douglas J. Campbell