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 GYNAECOLOGY, 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)


Articular involvement in syphilis has been recognized for a very long time and its incidence is increasing, especially in the congenital form. This is most commonly a hydralthritis, often associated with Hutchinson's triad. The knee is the joint most commonly involved, followed in order of frequency by the elbow, shoulder, hip, and ankle.

Some authors distinguish only an osteo-arthritis and a pure arthritic form, but the present author prefers Hochsinger's classification of syphilitic joint lesions into two main types: (1) Without bone involvement: (a) simple hydralthritis; (b) hyperplastic synovitis. (2) With bone involvement: (a) white syphilitic tumour; (b) hydralthritis with productive bone changes (chronic deforming rheumatism of Virchow and Volkmann).

Lesions of type (1) occur both in late congenital and in acquired syphilis, but more frequently in the congenital form in which they may start more or less acutely and progress with exacerbations and eventual hyperplasia. The condition is frequently bilateral. Differentiation between the congenital and acquired form is most difficult, the formerly-held belief that congenital syphilis of the joints is always unilateral and the acquired form commonly bilateral being erroneous. Radiographs showed marked distension of the joint without involvement of the bone, although osseous changes will eventually be seen in the form of an increase of size of the epiphyses. Radiologically, differentiation from tuberculous hydralthritis is extremely difficult, if not impossible, the only distinguishing feature being the presence of some degree of bone atrophy in tuberculous lesions.

Of the second type of lesion, white syphilitic tumour is monarticular in the majority of cases. Bone involvement is constant, and involvement of the inguinal lymph nodes almost as constant, whereas the latter is absent in cases of white tuberculous tumour. The lesion may be synovial, osseous, or perisynovial and the radiological appearances depend on the location, extent, and morphology of the osseous lesion. In strictly articular (synovial) lesions, the appearances will be similar to those of the first form (abnormal opacity of the soft tissue of the joint) and not pathognomonic. The bony lesions are first seen on the femoral condyles and the patella, and originally consist of marginal erosions, the process progressing until there may be complete destruction of the patella. There is no evidence of perifocal reaction, although white syphilitic tumour is often associated with periostitis. Chronic syphilitic rheumatism which is frequently polyarticular and symmetrical may be associated with white pseudo-tumour, with normal articular appearances. This condition does not respond to specific treatment, in contrast to the true white syphilitic tumour which responds very well, with radiological evidence of restitutio ad integrum.

In the differential diagnosis of syphilitic from tuberculous joint lesions four points must be emphasized: (1) Syphilis causes considerable destruction of the soft parts of the joints and comparatively little bone change. (2) Characteristic ulceration and scarring are present. (3) Periostitis is associated with the true syphilitic white tumour. (4) Articular new bone formation is present much sooner than in tuberculous lesions. It is also pointed out that typhoid and certain other fevers produce articular changes which can hardly be differentiated from those of syphilis. The radiological diagnosis of these lesions is very difficult and very often the radiologist can do no more than to confirm the clinical and laboratory findings.

W. J. Czyzewski


Two cases of syphilitic balanitis are described in patients infected by the same woman. Both had previously suffered from non-specific balano-posthitis. Reviewing the 51 cases previously described, the author suggests that earlier or concomitant balan balanitis causes a tissue change which accounts for the slow evolution of a syphilitic infection.

James Marshall

The authors survey the various clinical symptoms present in 286 cases of congenital syphilis in Madrid. Their investigations show that this form of syphilis was associated with a relatively high mortality, being one of the four most frequently recorded causes of death in their hospital. During the last few years the morbidity figure has considerably increased in Madrid. The authors advocate treatment with arsenicals and penicillin; mercury should be discarded because of the unsatisfactory results obtained. Franz Heimann

SYPHILIS (Pathology)


Treponema pallidum has rarely been isolated from the viscera of patients with late or latent syphilis, though isolation is easy in experimental animals. The authors report successful isolation from three patients. The first patient suffered from gummatia of the liver, and a portion of a gummata excised at laparotomy was inoculated into the testicle of a rabbit, which developed syphilitic lesions after 5 to 7 days; these showed T. pallidum on dark-ground examination and the infection was successfully transferred to another animal. The second patient was suffering from florid secondary syphilis with hepatitis; a portion of the liver was proved by animal inoculation to contain T. pallidum but the blood serum gave negative results on inoculation. The third patient was thought to be suffering from syphilis of the stomach; a portion of this organ appeared to be syphilitic on histological examination but did not prove infective, because it had been treated with formalin; however, a lymph node from the gastro-colic ligament when emulsified and injected into a rabbit was proved to contain T. pallidum.

It is pointed out that spirochaetes have to be present in considerable numbers before they can be regularly demonstrated by dark-ground microscopy or tissue-section staining, but even as few as 10 or 20 are likely to produce infection in the rabbit. Suspected tissue should be emulsified and injected within 2 hours of removal from the patient into two rabbits (in case one dies), which should be kept at 68° F. (20° C.) or less over a period of not less than 90 days. It is suggested that this method of establishing the nature of syphilitic lesions should be more widely adopted.

T. E. Osmond

Studies on the Life Cycle of Spirochetes. III. The Life Cycle of the Nichols Pathogenic Treponema pallidum in the Rabbit Testis as seen by Phase Contrast Microscopy.


These two papers form part of a series of articles on the life cycle of strains of Treponema pallidum [of the five papers indicated in the list of references only one has yet been published]. The observations recorded in the present papers are concerned with phase-contrast microscopy of the living organism and the microscopic appearance of the same strain of treponeme as that seen in stained-smear preparations. This particular strain, the "Nichols pathogenic T. pallidum" is pathogenic for rabbits, and the material for the observations was obtained from experimental testicular cultures.

In most instances the organism appeared to be coiled as a spiral with a round transverse cross-section. On occasions organisms were seen which appeared as a flat rather than a coiled spiral. In freshly prepared specimens there was active movement consisting of the well-known rotary motion with occasional undulations. and also bending, twisting, and lashing movements. The latter were frequently seen as a prelude to transverse fission, when the two parts seemed to break away from each other where the bending was most acute. In a small proportion bodies, having the appearance of gemmae or buds, were noted in either a medial position or a terminal
position. The observations suggest that these buds can be thrown off from the spiral form and become free, and that an asexual development cycle then takes place within the bud or cyst from which eventually a number of young spiral forms may emerge.

Further observations suggest that, after conjugation of two or more spiral forms at about their middle third, a somewhat larger, complex development cyst may form in which organisms may develop and finally emerge as a tangled mass of threads, to take on typical spiral forms which later divide transversely in the usual manner.

In a series of well-produced photographs of the phase-contrast microscope preparations and the ordinary stained smears, most of the stages described in the text can be followed. The authors are cautious in their suggestions as regards this complex life cycle. They indicate that further investigations are in progress and that subsequent papers will deal in more detail with some of the processes involved.

H. J. Bensted


SYPHILIS (Therapy)


The authors believe that the maintenance of a constant blood concentration of penicillin is not necessary for the treatment of early syphilis, and that larger doses of penicillin administered over a longer period will prove more effective than the more usual shorter schemes of treatment. They also believe that the addition of bismuth to any scheme of treatment enhances its therapeutic value [an opinion that is widely held both in Great Britain and on the continent of Europe]. In 91 cases of primary and secondary syphilis, twenty daily injections of 500,000 units aqueous penicillin G were given, followed by from ten to twenty injections of bismuth subsalicylate (0·13 g.) twice weekly. Of these patients, 43 have been under observation for 10 months to 2 years, 42 for 3 to 9 months, and six for 2 to 3 months. At the last examination 79 were sero-negative, eleven were sero-positive with falling titres or weak positive reactions, and only one patient had relapsed serologically. G. L. M. McElligott


Of 160 ambulant patients with early syphilis treated by this method 113 completed the schedule without default and 70 per cent. of these were subsequently observed for 8 to 19 months. The results in primary sero-negative and sero-positive cases compared favourably with those obtained with the same total dosage in a 16-day schedule. In secondary syphilis the results were less satisfactory. Abnormalities in the cerebrospinal fluid were found more frequently with the 8-week than with the 16-day schedule.

James Marshall


The authors treated four groups of patients suffering from primary and secondary syphilis, totalling 500 cases, with the following schedules: (1) Calcium penicillin in oil and beeswax (P.O.B.), 900,000 units, bismuth ethyl camphorate, 3 ml., and oxophenarsine ("mapharsen"), 0·05 to 0·06 g., given at one visit. (2) Procaine penicillin-G in oil with 2 per cent aluminium monostearate (PAM), 1,200,000 units, in one dose. (3) PAM, 1,200,000 units, once a week for two doses. (4) PAM, 1,200,000 units, once a week for four doses. In all cases the observation period was one year. Failures are classified as relapse or reinfection [though how these are distinguished is not stated].

In sero-negative cases Schedule 2 appeared to be inferior to the others; in sero-positive primary syphilis Schedules 1 and 4 gave the best, and Schedule 2 the worst, results; and in secondary syphilis Schedule 4 gave the best, and Schedule 2 the worst, results. The incidence of reinfection was twice as high in primary as in secondary syphilis [which is what would be expected]. In the series of 500 cases as a whole, Schedule 4 gave the best, and Schedule 2 the worst, results, the percentage of failures in the four groups being 12-3, 20-2, 13-0, and 7-5 respectively. As regards serum reactions the percentages of patients becoming sero-negative in each of the four groups were: primary: 83-5, 84-0, 76-5, and 76-5, and secondary: 63-4, 55-9, 57-6, and 78-3 respectively; here again Schedule 4 gave the best results in secondary syphilis. It is concluded that Schedule 1 is to be preferred for the rapid treatment of primary syphilis, and Schedule 4 for secondary syphilis.

T. E. Osmond


The effects of treatment with aureomycin in twelve cases of neurosyphilis (three asymptomatic, two of meningovascular syphilis) and seven of tabes or paresis are recorded. The majority of the patients were given 60 to 67 g aureomycin orally (2 to 3 g daily at 6-hourly intervals over a period of 20 to 28 days). Symptomatic improvement and increase in weight were noted in most of the paretic patients. In all cases the cell count in the cerebrospinal fluid was markedly decreased, and its content of protein was much diminished in all except one patient. The results of the Lange reaction and serological tests usually showed no change after obser-
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A series of 198 patients with dark-field-positive lesions of secondary syphilis was treated in 1946 with 2,400,000 units amorphous penicillin (40,000 units 3-hourly for 71/2 days) plus 0-32 g. "chlorarsen" (8 daily injections of 0.04 g.) plus 0-6 g. bismuth subsalicylate (three injections of 0-2 g. on the first, fourth, and eighth days of treatment). The three drugs were administered concurrently over a period of 71/2 days. Although only 103 of the total number of patients were observed for more than 2 years, the authors have assumed that the defaulters would have shown the same ratio of results of treatment as those actually observed. No serious side-effects of arsenotherapy are recorded but the chlorarsen had to be omitted, or its dosage reduced, in 32.3 per cent. of cases.

Diagnostic lumbar puncture was carried out before treatment in 195 cases, in 162 (83-1 per cent.) of which the fluid was normal. In ten of the remaining 33, the fluid became normal after treatment, in two it was improved at a second examination, in two it was unchanged, and in a further two there was an increase in cells and protein. The fluid was not re-examined in the other seventeen cases. Failure of treatment is noted in 29 cases, including six probable reinfections, the cumulative failure rate for the whole group treated being statistically assessed at 15-4 per cent. at 12 to 15 months, and 20 per cent. at 24 to 27 months. This compares favourably with failure rates of 26-8 and 37-5 per cent. at the same periods in a previous series of 266 patients with secondary syphilis treated with 2,400,000 units of penicillin alone. Though the authors recognize that the improvement in their second series may be explained partly by the use of more potent preparations of penicillin they nevertheless consider that this is mainly due to a synergistic action between the three agents used.

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G. L. M. McElligott


The outcome of pregnancy is analysed in 341 women with early syphilis (321 with primary or secondary syphilis and twenty with early latent syphilis) treated before conception with 600,000 to 9,600,000 units aqueous penicillin. In 58 cases, 320 to 360 mg. arsenoxide was given in addition, but no patient was re-treated during the pregnancy under review. There were 325 live births and sixteen foetal fatalities (abortions, miscarriages, stillbirths, and neonatal deaths)—a mortality of 49-2 per 1,000 live births. In 1944 the stillbirth rate in New York City was 80-9 per 1,000 live births. No evidence of syphilis was found at necropsy in one stillborn infant in the present series The baby was observed for 90 days or over in
229 instances and mother and child tested serologically. The mother was sero-negative in 190 cases, sero-positive in 31; in eight cases the status was unknown. Two infants had syphilis; one was born of a mother who had received only 1-2 mega units penicillin before conception and who had remained sero-resistant throughout, while the mother of the other was thought to have been reinfected late in pregnancy. No particular differences in the results of treatment were noted between women who had not been pregnant when treated and those to whom treatment had been given during a previous pregnancy. It is considered that re-treatment during pregnancy is not strictly necessary for women who have previously been adequately treated for early syphilis.

R. R. Willeox


The results are reported of treating 149 pregnant women suffering from acutely infectious syphilis with aqueous penicillin. Group A (76 women) were given 2,400,000 units of amorphous penicillin over 15 days, with a total of 160,000 units during 24 hours. Group B (73 women) received 4,800,000 units of crystalline penicillin G over 3½ days, with a total of 640,000 units during 24 hours, that is, four times as much per day as those in Group A. Of the 203 pregnancies investigated, of which 74 started after the conclusion of therapy, 190 terminated in live births and thirteen in foetal deaths. In two of the latter cases stillbirth was due to syphilis, but the remaining eleven foetal deaths were not related to syphilis. In Group A, of the total of 99 living infants, 97 were free of syphilis, but two infants (from the same mother) were syphilitic. In Group B, all of the 78 living infants were healthy. Therefore, the second schedule of treatment with four times the dose of penicillin per day prevents congenital syphilis with more certainty than does the first schedule.

Of the 130 women who were treated for dark-field-positive lesions during pregnancy 26 completed treatment as late as one to 50 days before delivery. Although the incidence of prenatal syphilis is expected to be higher when treatment of the mother starts late in pregnancy, no cases of congenital syphilis occurred among the 24 living infants; the remaining two pregnancies terminated in stillbirth, which was probably due to syphilis.

T. Anwyl-Davies


GONORRHOEA (Pathology)


Of 807 cervical smears and cultures taken from 343 women admitted to a venereal diseases hospital in Finland on account of gonorrhoeal cervicitis, gonococci were found in 394 (48.7 per cent.) of the smears and in 560 (69.4 per cent.) of the cultures.

The results are analysed according to whether the specimens were taken during the menstrual, post-menstrual, ovulatory, or post-ovulatory phase, or at an uncertain phase of the menstrual cycle. When the phase was calculated forward from the preceding menstrual period, the percentage of positive cultures in the different phases varied only between 64.2 and 69.7 per cent. Some divergence was seen, however, between the incidences of positive smears. Thus 59.6 per cent. of 151 smears taken during the menstrual phase were positive, as against 52.4 per cent. (75 out of 143) of those taken during the post-menstrual phase, and only 41.4 per cent. (48 out of 116) of those taken during the post-ovulatory phase. When the phases were calculated backwards from the subsequent menstrual period in 511 patients, these differences were even more striking. The highest rate of positive smears was 50.4 per cent. of those taken during the post-menstrual phase, as against only 36.4 per cent. of those taken during the pre-menstrual phase.

R. R. Willeox

GONORRHOEA (Therapy)


Streptomycin was given to eighteen women, sixteen of whom had acute pelvic gonorrhoea and two asymptomatic gonorrhoea. All but one were treated as out-patients with streptomycin, 750 mg. being injected intramuscularly each day for 3 successive days. One, an in-patient, was given the same daily dose for 6 days. Examinations, including study of cervical and urethral smears and erythrocyte sedimentation rate (E.S.R.), were repeated weekly for 3 weeks and then monthly for 3 months. Three consecutive negative smears constituted a "cure".

Before treatment, the majority of patients had severe low abdominal pain, pyrexia, and an average E.S.R. of 22.8 mm. in one hour. Nine patients had a palpable, inflamed Fallopian tube. After treatment, pelvic tenderness decreased markedly within 24 hours, temperature becoming normal within 48 hours. The adenexal masses disappeared within 2 months in five cases, and were present but smaller in three cases after 3 months. The average E.S.R. was 15.3. Smears became negative within 24 hours in seven cases, within 48 hours in five cases, and within the first week in five more cases. One patient developed perihepatitis, and a Trichomonas vaginalis infection in another was not altered by the streptomycin. Although seventeen patients were cured, two courses of streptomycin failed to cure the eighteenth case.

T. Anwyl-Davies