Abstracts

This section of the journal is published in collaboration with 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, Biological False Positive Phenomenon, Pathology, Experimental).

Gonorrhoea.

Non-Gonococcal Urethritis and Allied Conditions.

Reiter's Disease and Allied Conditions.

Antibiotics and Chemotherapy.

Public Health and Social Aspects.

Miscellaneous.

After each subsection of abstracts follows a list of articles that have been noted but not abstracted.

Syphilis Clinical

Association of Syphilis with Hepatic Cirrhosis: A Report of Six Cases and a Review of the Literature


Of 49 patients with cirrhosis of the liver admitted to the Bristol Royal Infirmary during a 5-year period, six were found to have syphilis (a positive Wassermann reaction confirmed by a positive TPI test). The diagnosis of cirrhosis was confirmed in the five patients who had liver biopsies. All the patients were male and the age range was 36 to 69 years. The relevant clinical data are tabulated.

Since little attention has been paid to the relationship between syphilis and cirrhosis in recent years the authors decided to review the literature on such an association and to seek possible reasons for it. They note that in all the large series of cirrhotics reported on the incidence of syphilis exceeds 10 per cent. The pathology is not that of the classic 'hepar lobatum', and the association cannot be adequately explained either by coincident alcoholism or by syringe-transmitted viral hepatitis. The authors consider that routine serological testing for syphilis is essential for all cirrhotic patients, three of the six patients here reported having received no treatment for syphilis. One of these three had progressed to tertiary syphilis.

P. C. REYNELL

Syphilis and the Eye


Neuropathic Joints in Diabetes Mellitus


Neuroarthropathy in Charcot-Marie-Tooth Disease


General Paralysis in Victoria: Historical Study


Syphilis Therapy


This study conducted in the Dermatological Department of the Gutenberg University, Mainz, was prompted by recently published reports of the effectiveness of gentamycin in gonorrhoea and by personal communications of clinicians from three centres in Austria and Germany that it has no effect on treponemes in vivo. Nine solutions of gentamycin in concentrations ranging from 0-0005 to 500 µg/ml were prepared; 0-05 ml of the solution was mixed with 0-15 ml inactivated rabbit serum and 0-4 ml treponeme suspension (Nichols strain), and after incubation in anaerobic conditions for 18 to 20 hrs the percentage of motile treponemes was estimated microscopically. A total of 150 examinations (10 or 20 for each concentration) was carried out and the results were compared with control mixtures of treponeme suspension and inactivated rabbit serum (three controls for each concentration of gentamycin) and with a mixture containing penicillin instead of gentamycin in corresponding concentrations (two controls). An average survival rate of treponemes of 98 to 100 per cent. was recorded for all concentrations of gentamycin. Concentrations of 0-005, 5, and 500 µg/ml were examined again after 44 and 68 hrs, and it was noted that after 44 hrs a significantly higher percentage of treponemes survived in the presence of gentamycin than in the controls. It is concluded that gentamycin is suitable for the treatment of gonorrhoea in cases in which penicillin is not indicated because of the risk of masking possible syphilis.

L. Z. OLLER

Treatment of Pregnant Women with Syphilis as a Complete Safeguard against Congenital Syphilis


Children delivered of 570 women treated for syphilis during pregnancy with not less than 3 mega units penicillin were followed for a year at the Paediatric Department of the Dermatological Hospital in Warsaw. No case of congenital syphilis was recorded, but it is stressed that reagin transmitted by mother may persist in the child's serum for up to 3 months and that the TPI test remains reactive for up to 6 months. Five women with early manifest syphilis and latent syphilis
with high reagin titre who received penicillin for the first time in the concluding months of pregnancy were delivered of a stillborn foetus within a few days of the start of treatment. As the results of autopsy were not recorded, one is left to speculate whether the cause of foetal death was syphilis, Herxheimer reaction, toxic effects of penicillin, or some other factor.

The effectiveness of penicillin in preventing congenital syphilis is now well recognized, but stillbirths apparently precipitated by penicillin are worth recording though they are not mentioned in the authors' English summary.

L. Z. Oller

Recent Observations on the Treatment of Late Ocular Syphilis and Neurosyphilis


Treponemes persist in lymph glands and in the aqueous humour, even after extensive penicillin therapy. The Kraujian silver stain is useful in demonstrating spirochaetes in fixed tissues. Ampicillin, cephalaxin, erythromycin, and metronidazole may be helpful in treating late cases of syphilitic infection. A. G. Cross

Syphilis Serology

Serologic Reactivity in Consecutive Patients admitted to a General Hospital. A Comparison of the FTA--ABS, and Automated Reagin Tests


The fluorescent treponemal antibody-absorption (FTA--ABS) test was carried out at the Venerale Disease Research Laboratory, National Communicable Disease Center, Atlanta, Georgia, on sera from 463 patients admitted consecutively to a general hospital. The VDRL slide test and, when sufficient serum was available, an automated reaigin (AR) test were also performed and the results of the three tests were compared with each other and with the clinical records.

The FTA--ABS test was reactive with 78 sera (16-8 per cent.) and gave borderline results with forty (8-6 per cent.). Of the 78 patients with reactive sera, 73 were found to have treated or untreated syphilis and five were classed as intermediate because the history did not clearly indicate the presence or absence of syphilis. Only eight of the forty sera giving borderline results came from patients with a history of syphilis; of the remainder, two were classed as indeterminate, nineteen came from obstetrical patients, and the rest from patients with a variety of conditions. No individual group could be identified as being liable to produce false positive FTA-ABS reactions. None of the 345 patients with negative FTA-ABS reactions had a history of syphilis, though three were classed as indeterminate.

The VDRL test was reactive or weakly reactive with 44 sera (9-5 per cent.), which came from 38 patients with a history of syphilis, four with an indeterminate history, and two with collagen vascular disease. Results concordant with the FTA--ABS test were obtained with 379 (81-9 per cent.) of all sera, but with only 38 (47 per cent.) of the 81 from patients with treated or untreated syphilis.

The AR test was performed on 345 sera and was reactive with 45. Agreement with the VDRL test was obtained in 326 cases (94-5 per cent.). The AR test gave higher titres than the VDRL test with 27 of 32 sera giving positive reactions in both tests, but all but one of which were classed as syphilitic. The AR test was positive and the VDRL test negative with thirteen sera, all from syphilitic patients. Six sera were VDRL-reactive but AR-negative; three of these were classed as syphilitic and three as indeterminate. [The results of the AR test are not compared with those of the FTA--ABS test.]

The high proportion of reactive FTA--ABS tests which were confirmed by the clinical findings suggests that about one-sixth of this unselected hospital population had, or had had, syphilis. The value of routine screening tests under these circumstances is shown by the finding of three previously untreated cases of syphilis during the survey; sera from these three gave positive results in all the tests used. A. E. Wilkinson

Development of Rheumatoid Factor Activity and Cryoglobulins in Primary and Secondary Syphilis

LASSUS, A. (1969) Int. Arch. Allergy, 36, 515 16 refs

Sera from patients with primary and secondary syphilis were studied at the University Central Hospital, Helsinki. VDRL and TPI tests, as well as screening tests for rheumatoid factor and cryoglobulins, were carried out and the ESR and γ-globulin levels estimated. [For details of the methods used the original should be consulted.] The purpose of the study was to correlate the incidence of rheumatoid factor and cryoglobulins with duration of infection and with the presence of TPI antibodies and other signs of infection.

Of the patients with primary and secondary syphilis, 21 and thirty, respectively, had a raised ESR (>20 mm. in 1 hr); γ-globulin levels were raised (>1·5 g./100 ml.) in ten and 23 patients respectively. The incidence of raised ESR and γ-globulin levels was low during the first 2 months of infection.

Rheumatoid factor was detected in the serum of fourteen patients (nine with secondary syphilis); in eight the latex test alone was positive, in one the Waaler-Rose test alone was positive, and in five both tests were positive. The incidence of positivity was 0-5 per cent. during the first 2 months of infection; after this period it was just under 20 per cent. All the fourteen patients had reactive VDRL tests—in eleven the titre was >8. Cryoglobulins were found in sera from 24 patients, 22 of whose sera were VDRL-reactive with titres of >8 and ten of whom had secondary syphilis. The incidence of cryoglobulinaemia was 10 per cent. 31 to 45 days after infection, rising to 26 per cent. in infections of more than 90 days' duration. Altogether 37 patients (nineteen primary, eighteen secondary) had either rheumatoid factor or cryoglobulins in their serum, but only one showed both abnormalities.

It is thought that syphilitic infection induces rheumatoid factor activity or cryoglobulinaemia in a considerable proportion of patients with early disease, and that the incidence cor-

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relates with the length of infection and also with high levels of reagin and TPI antibodies. A.E. Wilkinson


The presence of raised IgM levels in cord blood has been proposed as an indication that intrauterine infection has occurred; raised values have been found in intrauterine infections with rubella, cytomegalovirus, and syphilis.

In the case reported, an infant showed signs of congenital syphilis at birth (enlarged liver and spleen, bullous lesions with desquamation of the skin of the hands and feet, and skeletal changes on X ray). Despite treatment, it died shortly after birth. The VDRL test was positive at a dilution of 1 in 64 on its serum and at 1 in 16 on serum from the mother who had had no antenatal care. Immuno-globulin estimations by a radial diffusion method on the child’s serum showed an IgG level of 860 mg. per cent., but no IgM or IgA could be detected.

[The more sensitive test for IgM antitreponemal antibody by an FTA-ABS test with a conjugate specific for IgM was not used; this might well have been positive despite failure to detect IgM by the diffusion method.]

A. E. Wilkinson


In this study 141 sera from newly-born babies were examined; all but sixteen were reactive in the VDRL and FTA-ABS tests by the standard method. FTA-ABS tests with conjugates specific for human IgG, IgM, and IgA globulins were performed. IgM antitreponemal antibody is not thought to cross the placenta from the mother’s circulation, so that its presence in the baby’s serum is presumptive evidence that infection of the infant may have occurred.

In eighteen instances the VDRL, FTA-ABS, and specific IgM test were all positive; fifteen of these babies showed clinical evidence of syphilis. In a further 107 babies, the two former tests were reactive but the IgM FTA test was negative; the reactive results were thought to be due to passive transfer of maternal antibody. In the remaining sixteen babies, all the tests were found negative. It is stated that follow-up studies for up to 2½ years have not shown any infants with initially reactive VDRL and FTA-ABS tests but negative IgM FTA tests who subsequently showed signs of congenital syphilis. However, most of the children had been treated on an insurance basis. In the discussion following the paper, the development of late onset congenital syphilis is reported in some babies whose IgM FTA tests were initially negative but later became positive in the first few months of life. This change in reactivity may occur before symptoms appear and while the VDRL and standard FTA-ABS tests are inconclusive. The IgM FTA test should be considered as an experimental procedure until its sensitivity can be evaluated. A. E. Wilkinson

[Reprinted from Abstracts on Hygiene, by permission of the Editor.]


An automatic serial diluting machine with microtite loops delivering 0·025-ml volumes was used to perform the haemagglutination (HA) test for syphilis (Tomizawa and Kasamatsu, Jap. J. med. Sci. Biol., 1966, 19, 305) on a microscale at the Communicable Disease Center, Atlanta, Georgia. Formolized tanned sheep erythrocytes sensitized with cell components of T. pallidum were used as antigen; sera are absorbed to remove group-reactive antibody to treponemes before testing.

Serial tests on sera from nine rabbits after infection with T. pallidum showed that the HA test became reactive as early as, or earlier than, the FTA-5 and VDRL tests. Sera of 320 to 40,960. Sera from rabbits infected with T. pertenue or T. cuniculi and chimpanzees infected with T. pallidum or T. carateum also gave positive results. Sera from 97 rabbits infected with a variety of non-pathogenic treponemes, 62 rabbit antisera to a variety of bacteria, and 75 sera from normal rabbits gave negative HA tests, as did sera from five rabbits immunized with normal rabbit testicular homogenate. Sera from two of four goats immunized with this last material gave positive HA tests at titres of 640 and 1,280; TPI tests were also positive on these two sera. Sera from six presumed normal goats gave negative HA tests. It was shown that HA reactivity of syphilitic primate serum could be inhibited by pre-treatment of the serum with sonically disintegrated T. pallidum, but not by VDRL antigen, Reiter treponemes, E. coli, or normal rabbit testis tissue.

The HA test is thought to be relatively specific for antibody to pathogenic treponemes, economical in reagents when the micro-method is used, and can be rapidly performed as a quantitative procedure.

A. E. Wilkinson

[Reprinted from Abstracts on Hygiene, by permission of the Editor.]


Plate Micromethod for the Bordet-Wassermann Test with Blood obtained from the Finger-tip [In Polish] GARLACZ, A. (1969) Przegl. dermat., 56, 773 1 fig., 5 refs


The HA test is thought to be relatively specific for antibody to pathogenic treponemes, economical in reagents when the micro-method is used, and can be rapidly performed as a quantitative procedure.

A. E. Wilkinson

[Reprinted from Abstracts on Hygiene, by permission of the Editor.]
**Comparative Studies on the Haemolytic and Treponema pallidum immobilizing Complement Activity in the Serum of Different Species**

MÜLLER, F., and SÉGERLING, M. (1970) *Immunology*, 18, 13 17 refs

**Simplified Method of Serum Dilution for the Performance of the Quantitative VDRL Test. Useful for Mass Examinations**


**Experience with the FTA–ABS Test**

Erfahrungen mit dem Treponemen–Immunofluoreszenz-Absorptions-Test (FTA–ABS-Test)


**Syphilis Pathology**

**Treponemelike Forms and Artefacts**


This study from the University of Miami School of Medicine reviews the artefacts which may be taken for treponemes when examining material by direct darkground or fluorescent antibody (FA) staining methods. These structures are classified as:

1. Glass shavings; these were found even on commercially pre-cleaned slides and might show ‘perfect morphology and the appropriate length and width’. When lying free they might show Brownian movement or appear bluish or slightly green in colour by FA staining.

2. Etch marks seen close to the circles inscribed on the slides used.

3. Curled strands coming from lysing red cells, or bacterial flagella.

4. Water marks due to partial drying at the edge of a preparation and absorption of the FA stain on to strands of dried protein.

Photomicrographs of structures previously accepted by the investigators as being treponemes were reviewed. In two instances these were now classed as definite, and in two as possible artefacts, but it is stressed that ‘incontrovertible’ treponemes have been seen in material from patients with late sero-negative ocular and neurosyphilis. The importance of scrupulous cleanliness of slides and coverslips is emphasized as is the need for critical microscopy.

[Most of the structures illustrated show very little resemblance indeed to treponemes. This is closest with some of the glass fibres, but these can usually be distinguished from treponemes by their very much greater refractility when examined by dark-ground under visible light.]

A. E. Wilkinson

**Congenital Ocular Syphilis**


Histological examination of both eyes of a newborn infant who had congenital syphilis showed treponemes in the choroid, retina, and vitreous. Intracellular organisms were also found in liver cells. Stress is laid on the importance of using several methods of examination for treponemes, including the fluorescent antibody tissue stain, the Krajian silver stain, and darkground illumination.

E. W. G. Davies

**Gonorrhoea**

**Single-dose Treatment of Gonorrhoea with Selected Antibiotic Agents**


The investigation reported in this paper from the Navy Preventive Medicine Unit No. 6, Pearl Harbour, Hawaii, was conducted at a number of United States naval bases in the Pacific area. Within the past decade a high incidence of penicillin-insensitive strains of gonococcus has developed in this region and it is thought that this trend continues more and more gonococcal infections will require treatment with dosages of penicillin which it would be impracticable to administer to outpatients. For this reason, periodic examination of the efficacy of other agents for the treatment of gonorrhoea is necessary. In this study the standard treatment—a single injection of 2-4 m.u. procaine penicillin preceded by 1 g. probenecid orally—was compared with three other treatment regimens—2 g. ampicillin also preceded by 1 g. probenecid, 2 g. cephaloridine, and 2 g. kanamycin.

A total of 411 male patients (mean age 22 yrs) took part in the study. The numbers receiving each drug were 103 for penicillin, 106 for ampicillin, 97 for cephaloridine, and 105 for kanamycin, the drugs being allocated in consecutive order. Diagnosis in every case was confirmed by culture and in some instances tests of sensitivity to the various antibiotics were carried out. Serum antibiotic levels were measured when possible. All patients returned within 5 days of treatment for further examination.

Of the 103 patients given probenicid–procaine penicillin, 101 (98 per cent.) were cured according to the standards adopted. The cure rates for the other three drug regimens were: probenecid–ampicillin 105 (99 per cent.), cephaloridine 81 (84 per cent.), and kanamycin 97 (92 per cent.). The gonococcal strains recovered in the Philippines and Japan showed marked in vitro insensitivity to the antibiotics, 80 per cent. requiring between 0.25 and 1.0 μg./ml. penicillin for growth inhibition. The clinical results achieved with probenecid–penicillin compared favourably with those obtained in a previous study and were equalled by the results obtained with probenecid–ampicillin. The serum antibiotic levels obtained with probenecid–ampicillin were higher and more predictable than those obtained with probenecid–ampicillin, and most of the strains tested showed increased susceptibility to ampicillin.

The authors believe that since the emergence of increasing numbers of penicillin-insensitive strains of gonococci seems predictable, a probenecid–ampicillin regimen may give more favourable results. The results of the cephaloridine regimen were the least impressive but might have been improved by using probenecid as well; it is thought that the potential toxicity of kanamycin makes it unsuitable for repeated infections.

Leslie Watt
Medico-Social Background to Gonococcal Ophthalmia

From 1964 to 1968, 48 cases of gonococcal ophthalmia neonatorum were notified in Glasgow. A retrospective study of medical and social factors in pregnancy shows that 21 mothers had vaginal discharge, 23 were unmarried, and 27 were receiving social security payments. The author emphasizes the importance of taking a full social history antenatally and stresses that gonococcal ophthalmia neonatorum is a preventable disease.  A. S. Mushin


Serological Properties of Aqueous Ether Extracted Endotoxin from Neisseria gonorrhoeae  Maeland, J. A.  (1969)  Acta path. microbiol. scand., 77, 495  3 figs, 16 refs


Spiramycin in the 'Minute Treatment' of Gonorrhoea

Non-gonococcal urethritis and allied conditions
Yeast Flora in Mother and Child

This study from the University of Aarhus reports the incidence of yeasts in the vagina, rectum, and throat of healthy pregnant and non-pregnant women; 75 children born of these pregnancies were also examined for yeasts in the mouth and the anus.

Yeasts were isolated in 32 per cent. of the samples from the vagina, 69 per cent. from the rectum, and 59 per cent. from the throat of 74 pregnant women. A significant increase in the rectum was noted between the first and third trimesters. The commonest yeast in all three sites was Candida albicans.

One week after delivery the frequency of vaginal yeasts in 71 of the women examined had dropped to 11 per cent., from 42 per cent. in the third trimester. In 62 of these women examined at 5 to 12 months after non-gravid, Candida albicans had decreased significantly from the third trimester in both vagina and rectum.

While there was no direct association between vaginal discharge and vaginal yeasts, Candida albicans was found in most instances of vulvo-vaginal pruritis and in all cases where both vulvo-vaginal pruritis and patches in the vagina were present.

Yeasts were found in 19 per cent. of infants in the 7th day of life, but the incidence increased to 57 per cent. at 5 to 12 months of age. Whenever Candida albicans was found in an infant, it was also found in at least one site of the mother, suggesting that contamination of the infant may occur from the mother. Infants whose mothers had the same species of yeast at all three sites ran a great risk of contamination.

The author’s findings do not support the view that contamination generally occurs from one site to another. He suggests reasons for the view that contamination of the infant at the age 5 to 12 months could derive from the throat of the mother.]  C. S. Ratnattunga


Oral Contraceptive Medications and Vulvovaginal Candidiasis

Treatment of Non-Specific Urethritis: Trial of a Triple Tetracycline Preparation

Antibiotics and chemotherapy

For over 3 years a drug surveillance system has operated in three Boston hospitals and computerized records of 3,985 patients are now available. The authors of this paper from Lemuel Shattuck Hospital and Tufts University School of Medicine, Boston, have analyzed the data available to assess the incidence of drug rash following the administration of penicillins in general and ampicillin in particular.

The whole patient population (3,985, of whom 48 per cent. were male and whose average age was 59) was divided into three groups: (1) 422 patients who received ampicillin; (2) 622 who received other penicillin compounds; (3) 2,941 patients in a control group who received no penicillin derivatives.

Forty patients in Group 1 (9-5 per cent.), 28 in Group 2 (4-5 per cent.), and 54 in Group 3 (1-8 per cent.) developed rashes. [The types of rash were not separated.] In general the three groups were comparable, although the patients who received ampicillin tended to be more seriously ill ab initio. Detailed analysis showed that after ampicillin there was little difference in incidence of rash between parental and oral administra-
tion. In contrast, all the patients who developed rashes after other penicillin derivatives had received parenteral therapy.

Discussing these findings, the authors note the additional allergenicity of ampicillin and state that this excess usually occurs after at least a week of treatment. Rashes caused by ampicillin may be due to additional impurities in the preparation which are antigenic. John A. Raeburn


Rifampicin appears to inhibit the replication of poxvirus by blocking the synthesis of virus protein late in the growth cycle. The antibiotic inhibits the multiplication of trachoma agent in vitro and in vivo and has been used successfully to treat trachoma in a baboon eye. The hydrazide side-chain of rifampicin appears to be essential for its antiviral and antitromatocact activity. E. S. Perkins

Rifampicin in Dermatology and Venereology (La rifampicina in dermatologia e venereologia) AYALA, L. (1969) G. ital. Derm., 110, 665 16 figs

Clinical Trials of Rifampicin in Dermatological and Venereal Diseases (Sperimentazione clinica con la Rifampicina in affezioni dermatologiche e venereologiche) RASPEI, L. (1969) G. Clin. med., 50, 896

Public health and social aspects


Miscellaneous


The finding that ampicillin, prescribed for a patient with urinary tract infection, also successfully cured her of granuloma inguinale of the cervix prompted the authors of this paper from the Philadelphia General Hospital to use ampicillin in treating three more proven cases of the disease. All four patients were women (one white and three Negro, aged 34-52 years) and the diagnosis was confirmed by demonstration of typical Donovan bodies in Geimsa-stained ‘tissue-crush’ specimens and, in one case, by biopsy.

Ampicillin was given by mouth in a dosage of 1 g. (in one case 2 g.) daily and treatment was continued for 3 to 12 weeks, the total dosage varying from 24 to 160 g. The highest total dosage (160 g. given over 12 weeks) was administered to a patient who had already relapsed after an 11-week course of tetracycline (2 g. daily). In all four cases there was rapid regression of the granulating lesion, with disappearance of Donovan bodies; in two re-epithelialization was complete within 2 to 3 weeks. No recurrence took place during observation periods, which varied from 4 to 6 months.

It is considered that ampicillin shows promise as an alternative to streptomycin and tetracycline in the treatment of granuloma inguinale. Leslie Watt

Granuloma Inguinale DAVIS, C. M. (1970) J. Amer. med. Ass., 211, 632 8 figs, 19 refs


