Abstracts

These selected abstracts and titles from the world literature are arranged in the following sections:

Syphilis and Other Treponematoses
( Clinical and Therapy; Serology and Biological False Positive Phenomenon; Pathology and Experimental)

Gonorrhoea
( Clinical; Microbiology; Therapy)
Non-Specific Genital Infection
Reiter’s Disease

Syphilis and other treponematoses (Clinical and therapy)

Syphilis in Pregnancy
Supervening on Yaws: Case Report

This paper gives the case history of a 21-year-old Pacific Island woman who presented at 30 weeks’ cyesis, giving a past history of yaws, untreated with antibiotics, at the age of 8 years, supported by typical scarring of the left leg and bowing of the tibia. Positive blood tests (WR, VDRL to a titre of 1 in 8, and FTA-ABS) were attributed to this and she was treated with a single dose of 2-4 m.u. benzathine penicillin. However, she went into labour at 34 weeks with acute polyhydramnios and gave birth to a live infant with severe congenital syphilis, involving liver, bone, and haemopoietic tissue, verified by IgM FTA on cord blood. Subsequently, the mother developed a generalized maculo-papular rash and was able to recall a painless sore on the perineum 6 months previously.

The authors emphasize that, even when a patient gives a history and has clinical signs of yaws, the diagnosis may be syphilis, and they go on to outline a scheme for the investigation and management of treponemal infection in pregnancy. Brian Evans

Acute Blindness in Early Syphilis
SMITH, J. LAWTON (1973) Arch. Ophthal. (Chicago), 90, 256
A man developed sudden loss of vision in one eye due to a central venous thrombosis and a vitreous haemorrhage. He also showed erythema nodosum-like lesions on the arms and a lesion on the nose. Investigation showed that the condition was due to secondary syphilis. A treponemal organism was found by silver stain in the aqueous humour 5 months after the patient had received a course of penicillin. E. S. Perkins

Influence of Age and Other Factors on the Antigenic Reactivity of Treponema pallidum in the Fluorescent Treponemal Antibody Tests (FTA, and FTA-ABS)
Treponemes were extracted from infected rabbit testes with saline, the suspension centrifuged for 5 min. at 2,000 G, and the supernatant stored at 4°C. for periods of 2 to 30 days. Films were prepared at intervals and fixed in acetone, and FTA tests performed. The sera tested were from thirty patients with no clinical or historical evidence of syphilis, Kolmer, Meinicke, VDRL, FTA200, and TPI tests being all negative. Reactive FTA results were interpreted as being non-specific. In the FTA tests twelve sera were reactive with antigen stored for 2 days, and this figure rose progressively to 22 after 30 days storage. In the FTA-ABS test no sera were reactive on Day 2 but seven were found reactive with the 30-day-old antigen.

In further experiments, 21 sera were tested against two antigens prepared from different rabbits and stored for 4 to 20 days. Both antigens gave positive results with varying proportions of the sera in the FTA test, but in the FTA-ABS test one of the antigens gave a single positive result on Day 4 and two on Day 20; the other antigen gave no positive
reactions over the whole period of storage. The authors consider that the specificity of the FT₄₂₀ and FT₁₂₂ tests is affected both by the age of the antigen suspension and by its origin. A. E. Wilkinson

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Syphilis (Pathology and experimental)


Clinical features of a case of congenital syphilis with a nephropathy which included severe haematuria, are described. The results of light and electron microscopy, as well as immuno-fluorescent studies of renal tissue obtained for biopsy, are reported. It is concluded that the nephropathy of congenital syphilis is an immune complex disease. The authors suggest that the division of the nephropathy into acute nephritis and a nephrotic syndrome is incorrect and that all cases form part of a spectrum of the same disease process.

Authors’ Summary

Gonorrhoea (Clinical)


This is a report on a group of men who attended the Social Disease Clinic of the Jewish General Hospital, Montreal, because they had been named by a female sexual contact with gonorrhoea proved by culture. During the study, 102 women with confirmed gonorrhoea provided 133 male contacts for examination. A diagnosis of gonorrhoea was made by microscopy of Gram-stained urethral specimens in 63 patients, indicating an infection rate of 47 per cent. Of these 63 men, 27 (43 per cent.) were completely asymptomatic; in the asymptomatic male group the diagnosis was confirmed by culture in all patients but two. The duration of the asymptomatic period ranged from 3 to 154 days.

During the study period, 12 per cent. of all men seen in the clinic with gonococcal urethritis were asymptomatic, and the authors stress the epidemiological importance of infections of this kind. J. D. Oriel


Gonorrhoea has reached epidemic proportions in the United States with a reported incidence of 5-7 per cent. of asymptomatic cases occurring during pregnancy. A case of unsuspected gonorrhoea diagnosed after caesarean section by culturing fetal gastric aspirate is reported. This method is submitted as another diagnostic tool of value in cases of suspected amnionitis, when there is an ill newborn, or in a population at high risk for gonorrhoea.

Author’s Summary


Gonorrhoea (Microbiology)


The test is performed in a buffered salt solution containing 0·04 g. K₂HPO₄, 0·01 g. KH₂PO₄, 0·8 g. KCl, and 0·2 ml. of 1 per cent. aqueous phenol red in 100 ml. distilled water. This is dispensed in 0·5 ml. amounts in small plastic tubes which are stored frozen until required. Carbohydrates (glucose, maltose, and fructose) are prepared as 20 per cent. solutions in distilled water and stored at —25°C. To set up the test, a 2-mm. loopful of growth from the primary plate or a subculture is suspended evenly in 0·25 ml. of the buffered salt solution and a 0·05 ml. drop is added to each of three tubes, to which are then added 0·05 ml. of the respective test sugars. After shaking, the tubes are incubated in a waterbath at 35–36°C for 1 to 4 hours.

Cells from 220 primary isolates of gonococci on Thayer-Martin medium produced the correct fermentation pattern. Only four isolates needed more than 1 or 2 hours for completion of the test; with most of the other 216 strains the result could be read after 30 minutes. 36 strains of various serotypes of Neisseria meningitidis, seven of Neisseria lactamica, and twenty-one of various commensal Neisseria were tested and showed the correct fermentation patterns.

No interference was found from contaminants on the primary plates inhibited by the selective antibiotics present nor from variation in differing growth requirements of gonococcal strains. Batches of carbohydrates should be tested with known strains before being taken into use. Some batches of maltose were noted to contain excessive amounts of contaminating readily fermentable substances.

A. E. Wilkinson


The growth of 55 primary cultures of gonococci on Thayer-Martin medium (GC base, IsoVitalex, haemoglobin, and VCN plus trimethoprim) was compared on plates incubated in:
(a) Candle jars giving 3 to 4 per cent. CO₂;
(b) A CO₂ incubator with 10 per cent. CO₂ in air;
(c) An air convection incubator containing 0·03 per cent. CO₂ in air;
(d) Anaerobically.

After 24 hrs¹ incubation the plates from the candle jars had the greatest number and size of colonies but after 48 hrs the amount of growth was approximately equal on plates from candle jars and from the CO₂ incubator. Only eight of the 55 strains in the air convection incubator had grown after 24 hrs; this increased to nineteen after 48 hrs. None of the 55 fresh strains or ten old laboratory strains grew when incubated anaerobically.

The distribution of Kellogg colony types of twelve strains was studied on GC base plus IsoVitalex. The relative numbers of each colony type were comparable after 24 hrs¹ incubation in any of the atmospheric conditions which permitted growth. The different colony types were distinguished most easily in cultures incubated in candle jars. A. E. Wilkinson

**Neisseria gonorrhoeae**

**Auxotyping: Differentiation of Clinical Isolates based on Growth Responses on Chemically Defined Media**


The authors, from the Department of Microbiology, Medical College of Wisconsin, Milwaukee, U.S.A., describe a system for differentiating clinical isolates of *Neisseria gonorrhoeae*. They devised eleven chemically defined agar media. The complete medium contains all the compounds required for growth and individual compounds are omitted from the different selective media. These compounds include L proline, L arginine, L ornithine, L methionine, hypoxanthine, uracil, thiamine, and thiamine pyro-phosphate. 251 clinical isolates from patients in Milwaukee were divided into twenty clusters, or auxotypes, on the basis of their patterns of growth. Two more auxotypes were identified among isolates from elsewhere. Cultures from different anatomical sites in the same patient, cultures from sexual partners, and repeated cultures from cases with presumed treatment failure showed the same auxotype. These auxotypes appear to represent stable properties of the bacteria. Auxotyping provides a method which could be useful in differentiating treatment failure from re-infection in individual cases and for the epidemiological investigation of gonorrhoea. Reference strains of the different auxotypes are available from the American Type Culture Collection, and from the National Collection of Type Cultures in London. The authors recommend their method for international collaborative studies on the epidemiology of gonorrhoea. R. N. T. Thin

**Variation in Colonial Morphology of Neisseria gonorrhoeae after Growth on Media containing Antimicrobial Agents**


Correlation between virulence and colony type of *Neisseria gonorrhoeae* has been known for some years. This study from the Baylor College of Medicine, Houston, U.S.A., reports that the gonococcus was grown on media containing:

1. Vancomycin, colistin, and nystatin;
2. These agents plus trimethoprim;
3. Trimethoprim alone;
4. A control without antimicrobial agents.

Colonial types 1, 2, and 3 showed specific and consistent changes which prevented accurate identification of these types. More colonies showed these changes in strains recently isolated from patients, and on media containing trimethoprim. Type 4 colonies showed little or no change. These observations are important in view of the widespread use of these antibiotics in media used for the primary isolation of *Neisseria gonorrhoeae*. R. N. T. Thin

**Defmed Physiological Conditions for the Induction of the L-form of Neisseria gonorrhoeae**


The authors tested the growth and production of L-forms of three strains of gonococci on defined media. They found that 8 per cent. polyvinylpyrrolidone (PVP), 2 per cent. purified albumin, and penicillin induced L-forms of all three strains. Albumin was essential for L-form induction. Sucrose, substituted for PVP, inhibited a parental gonococcus strain and reduced the frequency of L-form induction. D. C. Shanson

**Diagnosis and Incidence of Neisseria gonorrhoeae in Cape Coloured Females in the Western Cape. Laboratory Aspects**


**Gonorrhoea (Therapy)**

**Penicillin Resistance of Gonococci in South Vietnam**


This paper describes the investigation and treatment of soldiers suffering from gonococcal urethritis at the First Australian Field Hospital in South Vietnam. Seventy of 100 strains of...
**Neisseria gonorrhoeae** required a minimum inhibitory concentration of 1 i.u. penicillin or more when examined by a plate-dilution method. Strains partly resistant to penicillin were also partly resistant to tetracycline and kanamycin, but the correlation was not as close as in some other series. Eleven of fifty patients had a recurrence after treatment with 10 m.u. penicillin given in divided doses with probenecid over 3 days. One of fifty patients given 2 g. kanamycin had a recurrence, but fifty patients treated with 2 g. tetracycline daily for 10 days had no recurrences.

The author uses his laboratory and clinical findings to argue a case for the routine treatment of gonorrhoea with tetracycline in this area. He also suggests that, in military situations with large numbers of cases of urethritis, it is often necessary for non-medical personnel to administer a standard treatment in the first instance. [Surely he means para-medical personnel. While it is commendable to find such a paper coming from a field hospital, it is unfortunate that details of methods are scanty.]

R. N. T. Thin

**Comparative Therapeutic and Pharmacological Evaluation of Amoxicillin and Ampicillin plus Probenecid for the Treatment of Gonorrhoea**


Single doses of 3-5 g. ampicillin with 1 g. probenecid or of 3 g. amoxicillin alone were administered orally to 58 males and 56 females with uncomplicated gonococcal infection. The failure rate for genital or anal infection, or both, was 1-7 per cent. for ampicillin plus probenecid and 4-2 per cent. for amoxicillin alone. However, patients with oro-pharyngeal infection responded poorly. 75 isolates of *Neisseria gonorrhoeae* recovered from patients in this study were all inhibited by 1 μg. or less of ampicillin or amoxicillin per ml.; penicillin G, ampicillin, and amoxicillin had similar activity against these isolates in *vitro*. Serum concentrations of amoxicillin in ten volunteers remained above the minimum inhibitory concentration of most strains of *N. gonorrhoeae* for periods up to 10 hrs after a 3 g. oral dose. After 2 g. ampicillin was given with probenecid, the serum levels during the 5 to 12 hr period approached those achieved with 3-5 g. ampicillin plus probenecid, and actually exceeded levels attained during the same interval with 3 g. amoxicillin administered alone.

Authors' summary

**Various Regimens of Trimethoprim-Sulfamethoxazole used in the Treatment of Gonorrhoea**


The combination of trimethoprim (TMP) and sulfamethoxazole (SMZ) was used in a variety of regimens to treat 2,687 male and female patients with gonorrhoea. Large doses given over short periods gave good results, the best two regimens being four tablets twice daily for 2 days (98 per cent. cure) and five tablets twice on the first day and once on the second day (96-7 per cent. cure). The poorest results (82-5 per cent. cure) came from a regimen of one tablet four times daily for 5 days. Most of the patients who failed to respond were infected with strains that had MICs of TMP of > 50 μg/ml and MICs of TMP-SMZ (1:20) of > 4 μg/ml. Side-effects were infrequent and usually gastrointestinal. The drug had no effect on concurrent syphilis in three patients.

Authors' summary

**Cefazolin in the Treatment of Uncomplicated Gonorrhoea in Men**


**Ampicillin in the Therapy of Gonorrhoea in Men**


**Non-specific genital infection**

**T-mykoplasmas on Spermatozoa. Connection with Male Infertility**

GNARPE, H., and FRIEBERG, J. (1973) *Nature (Lond.)*, 245, 97

This study was undertaken to establish whether T-mykoplasmas could be found attached to sperm cells of men with reproductive failure. Sperm samples were obtained from infertile men with T-mykoplasmas and fertile men without T-mykoplasmas. The sperm was washed thoroughly and cultured for mycoplasma. Some of the plates were examined in a screening electron microscope. Seminal cultures from seven men with known T-mykoplasma infection exhibited growth in six cases. Five controls showed no growth. Scanning electron microscopic examination suggested that the T-mykoplasma colonies originated from the anterior and middle piece of the spermatozoa and it was shown that some spermatozoa from infertile men had bud-like outgrowths which were not present in control specimens. It is concluded that T-mykoplasmas are attached to sperm cells and it is thought that they produce neuraminidase-like substances which may interfere with fertilization or development of the fertilized egg.

G. W. Csonka

**Isolation of Chlamydia Subgroup A (Chlamydia trachomatis) in Irradiated McCoy Cells**


Details are given of a modified version of previously described methods for isolating *Chlamydia* Group A. The report will be of interest to all who are undertaking or contemplating the isolation of *Chlamydia* from genital sources.

P. Rhee

**Use of Gentamicin in the Isolation of Subgroup A Chlamydia**


The use of gentamicin to control contamination in a tissue culture system for the isolation of *Chlamydia*...
was investigated. Gentamicin, at concentrations up to 100 µg/ml, did not appear to inhibit the growth of stock chlamydial strains, as judged by assays for iodine-staining inclusions. When 343 cervical and urethral specimens were examined in the presence and in the absence of gentamicin, significantly more isolations of Chlamydia were obtained in the presence of 10 µg/ml gentamicin, and significantly fewer unsatisfactory results due to contaminating organisms were seen. Therefore, this aminoglycoside antibiotic appears to be a useful addition to a cell system for isolation of Chlamydia.

Authors' summary


Pathology of TRIC Agents JAWETZ, E. (1973) Rev. int. Trachome, 50, 27

Complement-fixation Test in the Diagnosis of TRIC Agents NABLI, B. (1973) Rev. int. Trachome, 50, 39

Laboratory Problems in the Diagnosis of Trachoma HARPER, I. A. (1973) Trans. ophthal. Soc. U.K., 93, 641


Reiter's disease


Trichomoniasis


98 selected patients suffering from trichomonal vaginitis were treated under double-blind conditions in a comparative study of nimorazole and metronidazole. The consorts of all but seven of the patients (92 per cent.) were treated simultaneously with metronidazole. Using standard dosages, no significant difference in the cure rates of these two drugs was observed. Author's summary


In a multicentre trial, 126 female patients with trichomoniasis were treated with either 200 mg. metronidazole three times a day for 7 days (Group A) or with a single dose of 2 g. metronidazole (Group B). They were asked to abstain from sexual intercourse for 2 weeks, and the partners of 38 of the women were also given a course of metronidazole. There was no significant difference in the cure rates of the two treatment groups 1 to 3 weeks after the end of treatment: 75 per cent. for Group A and 84 per cent. for Group B. Treatment of the sexual partners did not affect the overall cure rate. Nevertheless, seven of the nineteen treatment failures were seen in patients who had defaulted initially but subsequently re-attended, and in five of these the male partner had not been treated. The authors think that treatment of the male partner is important.

A yeast infection was present in 11 per cent. of patients before treatment and in another 10 per cent. after treatment with metronidazole. One-third of the patients still complained of vaginal discharge after treatment, and in half of these a persistent trichomonal or coexisting yeast infection was found. 10 per cent. of patients complained of pruritus after treatment and three-quarters of these had trichomonal or yeast infections. It was felt that the high default rate may have caused the failure rate of treatment to be underestimated.

J. T. Wright

Trichomonas vaginalis as the Agent of Oculo-Genital Conjunctivitis [In Czech] L. NOVOTNY (1973) Cr. Opfil., 29, 292

A description of two cases in newborn infants. Trichomonas as a cause of the blennorrhoea was verified microscopically and by culture. Sulphonamide preparations in drops and ointment resulted in prompt healing.

M. Klima

Candidosis


The authors report on the clinical effectiveness of potassium sorbate in the treatment of yeast vaginitis. Observations were made on 132 patients, comprising adolescents, pregnant and post-menopausal women, and a group of sexually active college students, who used a 1 per cent. concentration of potassium sorbate, either in water solution as a douche or swab or in a cream. Such preparations were said to have a marked soothing effect with elimination of subjective symptoms in more than 75 per cent. of these women. Potassium sorbate is a non-toxic antifungal agent widely used in the food industry and is known to inhibit the yeast microflora during wine fermentation. Preliminary studies by the authors showed inhibition in vitro
of yeasts isolated from vaginal infections. The results of their clinical observations indicate a possible means of alleviating yeast vaginitis.

[Further investigations are required to evaluate laboratory and clinical findings, including the use of potassium sorbate without the addition of other antifungal antibiotics which were used in some of the patients.]

B. M. Partridge

**Abstracts**

**Suppression of Herpes Simplex Virus Infection by Phosphonoacetic Acid**


Disodium phosphonoacetate when administered orally or topically to mice experimentally infected with herpes simplex virus was able to significantly reduce the mortality associated with the agent. In addition, this compound was able to reduce herpes virus lesions on the corneae of infected rabbits. **Authors' summary**

**Direct Immunofluorescence Test for the Diagnosis of Genital Herpesvirus Infections**


Herpetic lesions of the genitalia may be confused clinically with other ulcerative genital lesions. Direct immunofluorescence (FA) provides a rapid method of diagnosis, and the utility of this method for the diagnosis of genital ulcers was examined. 110 patients with genital lesions were examined by darkfield for syphilis and by FA and culture for herpes simplex virus (HSV) infections. Satisfactory samples were obtained from 102 patients, of which 81 were clinically suspected cases of HSV. Acetone-fixed slides of scrapings of ulcerative lesions were stained with conjugated antiseraum prepared in rabbits against HSV Type 2. HSV was isolated from 73 per cent. of specimens of suspected herpetic lesions, and 77 per cent. of these specimens were positive by FA. 9 per cent. were positive by FA only and these were not thought to represent false positives. 5 per cent. were positive by culture only. A comparison of clinical diagnoses with laboratory findings revealed that 4 per cent. of the cases were misdiagnosed when only the clinical evaluation was considered. The data suggest that the inclusion of a diagnostic FA test for HSV along with the darkfield examination may be useful for differentiating the etiological agents of ulcerative genital lesions. **Authors' summary**

**Inhibition of Herpes Simplex Virus Replication by Campothecin**


**Inhibition of Herpes Simplex Virus Replication by Cordycepin**


**Herpesvirus hominis Infection in Newborn Mice. I. An Experimental Model and Therapy with Iododeoxyuridine**


**Cell-mediated Immunity to Herpes Simplex Virus in Man**


**Latent Herpes Simplex Virus. Isolation from Rabbit Trigeminal Ganglia between Episodes of Recurrent Ocular Infection**


**Study of the Response of Herpesvirus-infected HEP-2 Cells to Iron Uptake and Ferritin Biosynthesis**


**Other sexually-transmitted diseases**

Light and Electron Microscopic Observations following Repeated Podophyllin-benzoin Therapy of Condylomata Acuminata

Public health and social aspects


Miscellaneous


This interesting report describes the association of Peyronie’s disease with the carcinoid syndrome in two patients. In Peyronie’s disease areas of fibrosis occur between the tunica albuginea and the corpus cavernosum; in the carcinoid syndrome fibrosis appears in areas such as the pericardial cavity and the retroperitoneal space. The authors suggest that the two diseases may be pathogenetically related, and that patients with Peyronie’s disease should be screened for the carcinoid syndrome by the estimation of the excretion of 5-hydroxyindoleacetic acid in the urine.
J. R. W. Harris


The author describes three cases in Bantu women in which amoebiasis of the female genital tract was found, responding in each case to metronidazole. Bloodstained vaginal discharge was the presenting feature in two cases; in the third, in whom the primary disease was stage 3 carcinoma of the cervix, with co-existent cervical amoebiasis, post-menopausal vaginal haemorrhage was the initial symptom.

The author points out that although intestinal amoebiasis is common in South Africa, amoebiasis of the female genital tract is rare.
M. A. Waugh


This study was undertaken to investigate the relation of cancer of the cervix to circumcision status as determined by actual examination of the marital partner. 1,148 histologically confirmed cases from five New York City hospitals were included in the study; 454 of invasive carcinoma, 411 of carcinoma in situ, and 283 of cervical dysplasia. Controls were matched by age and ethnic group. The examination of marital partners for circumcision status was limited to patients and matched controls who were married to a first husband. Five degrees of circumcision status, i.e., coverage of the glans by the foreskin, were recorded. Patients married to a first husband included 91 with invasive carcinoma, 140 with carcinoma in situ, and 98 with cervical dysplasia. Successful completion of examination of the marital partner was obtained for 64 of the invasive carcinoma case-control pairs, 108 of the carcinoma in situ pairs, and 74 of the cervical dysplasia pairs. No significant differences were found in the circumcision status of marital partners of cases and controls. This held true even when the invasive and in situ pairs were combined to provide a series of 172 pairs.

Authors’ summary


Bachelor’s Disease: Etiology, Pathology, and Treatment of Spermatorrhoea in the Nineteenth Century HALLER, J. S. (1973) N.Y. St. J. Med., 73, 2076


Natural Rubella Infection of the Female Genital Tract SEPPÄLÄ, M., and VAHERI, A. (1974) Lancet, 1, 46