Abstracts

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

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

- Gonorrhea
  (Clinical; Microbiology; Therapy)
- Non-Specific Genital Infection
- Reiter's Disease

Syphilis and other treponematoses (Clinical and therapy)

Clinical Pharmacology of Benzathine Penicillin G in Neonates with Regard to its Recommended Use in Congenital Syphilis KAPLAN, J. M., and McCracken, G. H. (1973) J. Pediat., 82, 1069 17 refs
The authors state that they have recently treated five newborn infants in Dallas, Texas, with the dosages of benzathine penicillin G recommended by the Centers for Disease Control and American Academy of Pediatrics for the treatment of congenital syphilis. Each infant received a single intramuscular dose of 50,000 units per kg. benzathine penicillin G.

Penicillin activity was not detected in three of four cerebrospinal fluid samples. In view of this and until studies of clinical efficacy are available the authors feel that benzathine penicillin G cannot be recommended for the treatment of congenital syphilis.

J. R. W. Harris

This study, from the Red Cross War Memorial Children's Hospital, Cape-town, of three infants with congenital syphilitic nephrosis correlates the severity of the clinical and histopathological abnormalities with the apparent duration of the illness. All three had features of severe renal disease with generalized oedema, ascites, massive proteinuria, hypo-proteinemia, and raised blood urea. One infant had macroscopic haematuria and another had microscopic haematuria. Two of the patients exhibited mesangioendothelial proliferation and the third had mixed proliferative glomerulonephritis with crescent formation.

In all three cases immune complex deposition could be shown within and along the epithelial aspect of the glomerular basement membrane on light, electron, and immunofluorescent microscopy. In the neonate it may well be that the maternal IgG transmitted across the placental barrier participates in the formation of immune complexes. Certainly the reduced total serum haemolytic complement indicates the immune pathogenesis of the glomerulonephritis associated with early congenital syphilis.

The authors emphasize that, if diagnosis and treatment are delayed, irreversible renal damage may result.

J. R. W. Harris

Syphilis (Serology and biological false positive phenomenon)

This is a flocculation test in which unheated serum or plasma is tested with disposable equipment. RPR
tests were performed on 820 problem sera in parallel with the VDRL slide test and the TPI and FTA-ABS tests. 330 of these were from patients with syphilis or a history of the disease. The TPI or FTA-ABS tests were reactive in all but two of these, both treated patients. The RPR was reactive in 89.4 per cent. and the VDRL in 80.6 per cent. of this group.

490 sera were from patients in whom the diagnosis of syphilis could be excluded by the finding of negative TPI and FTA-ABS tests. Both RPR and VDRL tests gave negative results on 420 sera. BFP reactions were found in the remaining seventy; in 41 both RPR and VDRL tests were reactive, in 21 the RPR test alone, and in eight only the VDRL test.

The RPR test was thus found to be more sensitive but less specific than the VDRL test. Quantitative tests on 48 sera gave the same titre with both tests in 28, but in twenty the RPR titre exceeded that of the VDRL test by more than one doubling dilution. The RPR test is easy to perform and is thought to be a satisfactory screening test for syphilis.

A. E. Wilkinson
(Reprinted from Abstracts on Hygiene, by permission of the Editor.)

Kolmer’s Test in Serodiagnosis of Syphilis

Serological Diagnosis of Syphilis
(Propositions pour un diagnostic sérologique optimal de la syphilis)
A. Kern (1972) Arch. belges Derm., 28, 291

Specific Serological Diagnosis of Syphilitic Involvement of the Cardiovascular System

Serology of the Treponematoses among the Lobi People of the Ivory Coast

Investigation of Serum Glucoproteins in Patients with Contagious Forms of Syphilis

Syphilis (Pathology and experimental)

Cultivation of Pathogenic Treponema pallidum in Chambers Surgically Implanted in Experimental Animals

Hollow spherical polyethylene chambers with perforated walls were inserted into the subcutaneous tissue of the dorsolateral region of four rabbits and fifty guinea-pigs. 3 to 4 weeks later, when the skin incisions had healed, 1 ml. of a suspension containing 10 to 14 x 10^7 Treponema pallidum was injected into the chambers in the rabbits and 0.5 ml. into those in the guinea-pigs. Samples of blood were obtained periodically by cardiac puncture to follow the antibody response and fluid from the chambers removed for treponeme counts.

The guinea-pig proved a very suitable experimental animal. T. pallidum multiplied and maintained its virulence for at least 6 to 8 weeks as shown by infectivity for rabbits. No apparent lesions were produced in the guinea-pigs. Immobilizing antibody reached a peak level about 10 days after inoculation and remained high for at least 4 weeks. FTA-ABS and TPHA tests were negative for 5 to 6 weeks after inoculation and then became only weakly positive; no antilipoidal antibody was produced during the period of observation. The number of treponemes increased 10-fold by the 6th week and then decreased rather abruptly; there was a concomitant fall in immobilizing antibody. A booster injection of treponemes given at this stage was followed by an increase in the number of treponemes and a rise in immobilizing antibody.

A. E. Wilkinson
(Reprinted from Abstracts on Hygiene, by permission of the Editor.)

Artificial Immunization of Rabbits against Experimental Syphilis. II. Immunological Side-effects of the Treponemal Vaccine

Rabbits were immunized with suspensions of Treponema pallidum extracted from infected rabbit testes by a method which preserves a heat-labile protein component (Metzger and Smogor, Brit. J. Vener. Dis., 1969, 45, 308). Intramuscular injections were given four times weekly for 7 weeks, the total dose being 12 x 10^8 treponemes. 5 weeks later the animals were challenged by injecting 10^2 virulent treponemes intra-dermally at four sites. Lymph node transfers were made 4 months later to detect latent infections.

Tests on serum obtained 7 days after the last immunizing injection showed that half the rabbits had produced anti-rabbit haemagglutinating and a third cytotoxic antibody against rabbit lymphocytes. No precipitins for rabbit serum allotypes were detected. The production of haemagglutinins or cytotoxic antibodies was not related to the immune status of the rabbits but occurred slightly less frequently in male than in female animals.

Further animals were immunized with a single intramuscular injection of 12 x 10^8 treponemes and skin grafts from the animal used to produce the vaccine applied to their ears and to those of unimmunized control animals. In males, the grafts survived for a shorter time in the vaccinated than in the control animals; in females the reverse was found. Female rabbits were also found to develop more complete resistance to challenge after the 7-week course of immunization than did males. “Vaccine” produced by extracting normal, non-infected rabbit testes did not produce any immunity to challenge.

A. E. Wilkinson

Anti-syphilis Immunization
Specific Sensitization of the Peripheral Blood Lymphocytes to Spirochaetes in Syphilis


Cryoglobulinaemia in Patients with Contagious Forms of Syphilis


Histologic Patterns of Secondary Syphilis

Jeerapae, P., and Ackerman, A. B. (1973) Arch. Derm., 107, 373

Gonorrhoea (Clinical)

Epidemic Reappearance of Gonococcal Ophthalmitis

Neonatorum Snowe, R. J., and Wilfert, C. M. (1973) Pediatrics, 51, 110

Diagnosis of Gonorrhoea in Women: Comparison of Sampling Sites


Contribution to the Knowledge of Septic Gonococcal Rash


Gonorrhoea (Microbiology)

Current Research Activities on Gonorrhoea at the Center for Disease Control


In vitro effects of EMKO on Neisseria gonorrhoeae and Trichomonas vaginalis


Identification of Neisseria gonorrhoeae and Neisseria meningitidis by a Carbohydrate Disc Technique


Isolation of Neisseria lactamica from the Nasopharynx


Gonorrhoea (Therapy)

Low Antibiotic Resistance of Gonococci causing Disseminated Infection


The authors studied the antibiotic resistance of N. gonorrhoeae isolates from 39 patients with disseminated gonococcal infections. These isolates had been stored in 50 per cent. horse serum at -70°C. They were tested by an agar plate dilution technique on Mueller-Hinton medium supplemented with Isovitalex (BBL). Penicillin G and tetracycline hydrochloride were prepared in a log₂ dilution series and streptomycin in a single concentration of 256 μg per ml. The results obtained were compared with those from 111 isolates of uncomplicated infection. The distribution of minimum inhibitory concentrations of the two groups of isolates was compared by the Mann-Whitney test for two independent variables.

Gonococcal isolates from patients with disseminated gonococcal infection were significantly more susceptible to penicillin G (P < 0.0001) and tetracycline (P < 0.001) than isolates from patients with uncomplicated gonorrhoea. Resistance to 256 μg per ml. of streptomycin was found in only three of 36 isolates from patients with disseminated infection and in 33 of 88 isolates from patients with uncomplicated gonorrhoea (P < 0.005).

The authors feel that these results suggest either that clinical virulence, as manifested by the capacity to cause disseminated infection, is coincidentally linked to low antibiotic resistance, or that in vivo acquisition of resistance in any strain causes loss of virulence. They do not feel that these results justify any alteration in the present methods of therapy for disseminated gonococcal infection.

J. R. W. Harris

Sensitivity to Erythromycin of Strains of Gonococcy isolated in 1965-1966 and in 1971


Treatment of Resistant Gonococcal Urethritis

Chum-Chantholl (1972) Bull. Soc. Path. exot., 65, 764

Treatment of Gonorrhoea

Sparling et al. (1973) J. infect. Dis., 127, 578

Non-specific genital infection

Doxycycline Treatment of Chronic Trachoma


American Indian children with mild chronic trachoma were treated with doxycycline, 2.5 to 4 mg/kg. of body weight, given as a single daily dose on 5 days each week for a total of 28 doses given in 40 days. The study was carried out double-blind, with randomized placebo controls. Detailed ophthalmologic evaluation continued for 5 months after the treatment course. The trachoma in the doxycycline-treated children improved markedly, as compared to those receiving placebo (P < 0.001 at 20 weeks after treatment). Few untoward drug effects were observed. Serum levels of the drug were maintained through much of the treatment period, but drug levels in tears were low and irregular. This one-dose-a-day therapy deserves consideration for mass treatment of trachoma. (Author's summary)

A Simplified Method for Immunological Typing of Trachoma-Inclusion Conjunctivitis-

Lymphogranuloma Venereum


Responding to the pressure of large numbers of trachoma-inclusion con-
Junctivitis (TRIC)-lymphogranuloma venereum (LGV) isolates from field studies requiring serotyping, we have developed a simplified, less-precise method that utilizes cell culture-grown organisms to produce mouse antisera which are tested against prototype TRIC-LGV antigens in the micro-immunofluorescence test. Cell cultures with as few as 5 to 15 per cent. of cells showing inclusions produced adequate antibody in mice 4 days after single injection. Knowledge of the reaction of prototype antisera with the antigens has allowed typing of most isolates tested from the pattern of cross-reaction of their antiserum. (Authors' summary)

Clinical Aspects and Course of Reiter's Syndrome. Comparative Study of Two Series observed respectively in a Civilian and a Military Environment


Trichomoniasis

Adequate Staining of Trichomonas vaginalis by McManus’ Periodic Acid-Schiff Stain


A histochemical study of the cervicovaginal epithelium was undertaken; it was found that *Trichomonas vaginalis* shows an intense affinity for periodic acid-Schiff stain. In order to confirm this observation, sixteen proven cases of vaginal trichomoniasis were studied. Two routine stains, two histochemical stains for glycogen, and five histochemical stains for mucosubstances were performed on a specimen from each case. Reactivity of *T. vaginalis* to Schiff’s reagent was found to be due to an important glucogen and acidic sulphated mucopolysaccharide content not heretofore recognized. The morphological characteristics of *T. vaginalis* stained with the McManus periodic acid-Schiff stain are described, as well as some bases for differential diagnosis. The undulating membrane was demonstrated for the first time in stained smears. The use of periodic acid-Schiff stain is recommended for a simple and accurate laboratory diagnosis of vaginal trichomoniasis. (Authors' summary)

Pyrogenic Treatment of Resistant Forms of Urogenital Trichomoniasis


Candidosis

Incidence and Distribution of Yeast Species and of Trichomonas vaginalis in the Vagina of Pregnant Women


This paper reports the distribution of yeast-like fungi in 1,538 of 6,629 vaginal swabs sent for diagnosis of vulvovaginitis over a 5-year period, and compares it with the distribution obtaining in two groups of 1,031 and 1,085 women studied prospectively. *C. albicans* was isolated from approximately 95 per cent. of yeast-containing swabs taken from patients with symptoms or signs of vulvovaginitis and from 75 to 80 per cent. of yeast-containing swabs taken from patients being screened in an antenatal booking clinic. *Torulopsis glabrata* was isolated next most frequently. Only *C. albicans* and *T. glabrata* were associated with pruritus. The possible role of *T. glabrata* in the pathogenesis of mycotic vulvovaginitis is discussed.

6 per cent. of 1,031 women were found to harbour *Trichomonas vaginalis* and the *Trichomonas*: yeast ratio was 1:3. *Trichomonas* infection occurred more frequently in winter than in spring. The incidence of simultaneous infection with yeasts and trichomonads was 0-8 per cent. (Authors' summary)

Criteria for Diagnosis of Candida Vulvovaginitis in Pregnant Women


In this prospective study of 303 pregnant women, *C. albicans* was found in fifty patients (16-5 per cent.) but only once was it isolated from the healthy vagina. The majority of

Reiter’s disease

Study of the Aetiological Role of Halprowia Micro-organisms of the PLT Group in Diseases of the Joints. I. Excretion of Halprowia arthritisii from the Joints in Patients with Rheumatoid Monosynovitis and Reiter’s Syndrome


The Diagnosis and Treatment of Trichomonal Infection and its Importance for Fertility and Sterility

WALTHER, H. (1973) Z. Hautkr., 48, 553

Method for Detecting Mycoplasma and Bacterial L-form Colonies in Relief with an Ordinary Light Microscope by means of Oblique Light

MUÉLAS and ALÉS (1973) *Appl. Microbiol.*, 25, 484

New Methods in the Study of Bacterial L-forms and Mycoplasma


Modifications of the Growth Inhibition Test and its Application to Human T-Mycoplasmas


T-Strain Mycoplasmas; the Aetiological Agent of Non-specific Urethritis: a Venereal Disease

isolates (84 per cent.) were associated with signs of vaginitis or vulvo-vaginitis. In the remainder, isolation of the fungus was associated with discharge or other sign of morbidity. Discharge and irritation were not specifically associated with isolation of the thrush fungus, but 85 per cent. of women with vaginitis during pregnancy had precipitins in their serum, or C. albicans in the vagina. C. albicans was isolated from 23 of 28 women with vulvitis, and from eleven out of sixteen women with vaginal plaques or a cheesy appearance of the vaginal epithelium.

(Authors' summary)


Sera from 303 pregnant women were examined for precipitating antibodies to Candida by means of a double-diffusion test in gel. Three preparations derived from C. albicans, Type A (mannotan antigen, cytoplasmic antigen, and culture-filterate antigen) were used, each at two concentrations. Candida precipitins to one or more antigens were detected in 56 sera, the most frequent response being to the culture-filterate and mannotan antigens. Precipitins occurred in 33 per cent. of 91 women with typical or probable mycotic vulvovaginitis, and only 12 per cent. of the other women. Of the 56 precipitin-positive women studied, 43 (77 per cent.) had signs and symptoms of vulvovaginitis or cervicitis when examined; C. albicans was also isolated from the vagina of fifteen, fourteen of whom had clinical evidence of thrush. Results indicate a significant association between precipitating antibodies to Candida, isolation of the yeast and chronicity of mycotic vulvovaginitis in pregnant women. B. M. Partridge


The Occurrence of Candidosis after Treatment of Trichomoniasis (Zur Entstehung der Candidosen nach Trichomonadenbehandlung) RAAB, W., and WINDISCH, J., Z. Haut-u. Geschl.-Kr., 48, 381

Candidal Cystitis WISE, G. J., WEINSTEIN, S., GOLDBERG, P., and KOZINN, P. J. (1973) J. Amer. med. Ass., 224, 1636


Genital herpes


The antiviral compounds idoxuridine and 5-bromodeoxyuridine were incorporated into the deoxyribonucleic acid (DNA) of the dividing basal cells of the rabbit corneal epithelium. Topical application of these compounds to herpes simplex-infected rabbit cornea resulted in incorporation of these agents into the DNA of the virus, cessation of viral DNA synthesis, and clinical cure. The analogues, 5-iodouracil, 5-fluorouracil, and 5-fluorodeoxyuridine, were not incorporated into the DNA of the virus, did not alter DNA synthesis of the virus, and did not effect a clinical cure of the virus infection. This indicates that idoxuridine and 5-bromodeoxyuridine exhibit a clinical cure of herpes simplex-infected rabbit corneas due to their incorporation into the DNA of the virus. (Authors' summary)

Differentiation between Herpes Simplex Virus Type 1 and Type 2 Strains by Immuno-electrophoresis JEANSSON, S. (1972) Appl. Microbiol., 24, 96


Herpes Simplex-Virus Type II: Microbiological and Clinical Experience with an Inactivated Vaccine NASEMANN, T., and SCHAEGL, G. (1973) Hautarzt, 24, 133

The Role of Type Specific and Cross-reacting Structural Antigens in the Neutralization of Herpes Simplex Virus Types 1 and 2 SIM, C., and WATSON, D. H. (1973) J. gen. Virol., 19, 217

Nonvirion Antigens produced by Herpes Simplex Viruses 1 and 2 TARRO and SABIN (1973) Proc. nat. Acad. Sci. (Wash.), 70, 1032


Sera from fifty blood donors and 69 patients (seventeen with known Candida infection) were studied to determine whether a combination of agglutinin, precipitin, and immunofluorescent IgM and globulin antibody tests to C. albicans would be more helpful than a single test in the clinical diagnosis of a yeast infection. In testing for precipitating antibodies, a micro-gel-diffusion technique was used and only one antigen (a commercial preparation by Hollister Stier). On the basis of their results, the authors suggest that a serum with any one or all of the following would suggest the diagnosis of a serious yeast infection: an agglutinin titre of 1:80 or greater; an anti-human globulin titre of 1:128 or greater; the presence of precipitins. This criterion was met in 65 per cent. of the seventeen patients with Candida infection, twelve of them due to C. albicans. Less than 2 per cent. of the controls had clinically significant antibody levels. B. M. Partridge