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 (pathology and experimental)

Surface-associated host proteins on virulent Treponema pallidum

Characterization of lymphocyte responsiveness in early experimental syphilis. I In-vitro response to mitogens and Treponema pallidum antigens

Testicular cultivation of Treponema pallidum (Nichols strain) facilitated by sustained release steroid administration

Histopathology of secondary syphilis

Syphilitic lymphadenitis: immunofluorescent identification of spirochetes from imprints

Syphilis and other treponematoses (clinical and therapy)

Syphilis and homosexuality in adolescents

Although venereologists are aware of the insidiousness of the onset of syphilis, other physicians nowadays see few cases of syphilis and often forget its manifestations. In the British Isles, paediatricians would still not be dealing with the cases mentioned in this study.

Case reports are given of a 17-year-old boy, misdiagnosed at first as having pityriasis rosea and later found to have secondary syphilis, and a 16-year-old boy found to have positive treponemal serological tests; both presented to paediatricians. They had contracted the disease through homosexual contact. Contact tracing was initiated after diagnosis.

M A Waugh

Pachymeningitis cervicalis hypertrophica syphilitica

Syphilis (serology and biological false-positive phenomenon)

Syphilis antibodies in the cerebrospinal fluid and their diagnostic significance

Samples of serum and cerebrospinal fluid (CSF) of 45 patients with confirmed syphilis were tested by the TPHA titre, specific IgG, and albumin to determine the ratio in the two specimens and evaluate the possibility of local production of specific antibodies in the central nervous system (CNS). In 10 of 11 patients with active neurosyphilis local production of antibodies in the CNS was demonstrated. In 16 patients with possible active neurosyphilis, seven specimens of CSF showed local antibody production and in none of 18 patients without evidence of neurosyphilis were local CNS antibodies found. It is concluded that the presence of immunoglobulins and positive TPHA test results at appropriate titres suggesting local production of CNS antibodies are a valuable diagnostic approach in the diagnosis of active neurosyphilis.

G W Csonka

Comparison of serum and plasma specimens for syphilis serology using the reagin screen test

The Wasserman, Kline and VDRL reactions in routine syphilis serodiagnosis

The Wasserman, Kline and VDRL reactions in routine syphilis serodiagnosis
Cell-mediated immunity in *Treponema pallidum* infected rabbits: in-vitro response of spleen and lymph node lymphocytes to mitogens and specific antigens
SM MARET, JB BASEMAN, AND JD FOLDS

This paper gives the results of experiments to determine whether BCG-treated rabbits cleared *Treponema pallidum* from their bloodstream more rapidly than rabbits in which immunity to *T. pallidum* had been produced either actively or passively.

Five groups of rabbits were used: (A) six normal rabbits to provide a baseline clearance rate; (B) three rabbits inoculated with 1 mg *Mycobacterium bovis* (BCG) 20 mins. before and six rabbits five hours later (these animals gave positive tuberculin test results); (C) three rabbits treated with immune serum prepared from other rabbits previously infected with *T. pallidum* between six and 24 months earlier (the serum was given by daily intravenous injections of 10 ml commencing six days previously and with a final injection two hours before the challenge with *T. pallidum*); (D) three rabbits treated with immune serum and BCG as in groups B and C; (E) three rabbits infected with *T. pallidum* 13 months previously with present serology RPR + TPHA + 1/15.

Intravenous injections with suspensions of freshly minced syphilitic orchitic testes containing a mean total of 1·3 × 10⁶ *T. pallidum* in an unspecified quantity of an anaerobic maintenance medium were given in an unspecified vein. Thereafter 0·5 ml amounts of blood were withdrawn from a marginal ear vein and 0·1 ml aliquots of whole blood injected intradermally in four sites on the shaved back of indicator rabbits. No anticoagulant was used and the injections were performed within two minutes. The indicator rabbits were kept shaved in a room temperature of 18°C. They were not immunosuppressed.

A clearance time was taken as the time when the circulating concentration of treponemes would establish lesions in only two of the four sites on indicator rabbits. These were: group A, 90 mins, group B, 90 mins, group C, 16 mins, group D, 54 mins, and group E, 20 mins. Complete clearance times were group A and B, > 8 hours, group C, 32-60 mins, group D, 1-2 hours, and group E, 2-4 hours. From these results it is inferred that the activation of the fixed macrophages in the reticuloendothelial system by BCG does not enhance the clearance of *T. pallidum*, synergy with passive humoral immunity does not take place, and circulating humoral factors—probably antibodies to *T. pallidum*—play a role in immunity to reinfection in syphilis.

G D Morrison

Les complexes immuns circulants dans la syphilis primo-secondaire et sérologique
F PIERTE, P WATTRE, J-P DESSAINT, P DEVEMY, AND H BERGEOND (Hôpital Regional, Lille Cedex, France). *Ann Dermatol Venereol* 1979; 106: 967-72.

Some clinical features of syphilis suggest that immune complexes may be a pathogenetic factor in the syphilitic lesions. Recently, circulating immune complexes have been reported in six patients with secondary syphilis by Solling et al.

In our study, the presence of circulating immune complexes was investigated in 42 patients with syphilis (primary, secondary, latent) by the method of C1q binding test. Elevated C1q binding activity was demonstrated in two-thirds of the patients with primary and secondary syphilis, with a significant difference between this group and the controls. Only two of the 21 patients with latent syphilis showed elevated C1q binding activity. Circulating immune complexes, often at moderate rates, appear very early and decrease rapidly during treatment.

It was not possible to demonstrate a decline in serum complement in association with elevated C1q binding activity.

During five Jarisch-Herxheimer reactions, there was no increase in circulating immune complexes compared with pretreatment values: this suggests that circulating immune complexes have no essential importance in this reaction.

The characterisation of the components of these circulating immune complexes by the previously described "radio-immunoprecipitation PEG assay" (RIPEGA) will enable us to state their specificity and to conceive their potential responsibility in some lesions of secondary syphilis, such as nephritic syndrome.

Authors' summary

Rates of clearance of virulent *Treponema pallidum* (Nichols) from the blood stream of normal *Mycobacterium bovis* BCG-treated and syphilitic rabbits

Experimental syphilis and serological examination for treponematoses in hares

Concanavalin A-mediated affinity film for *Treponema pallidum*
JB BASEMAN, Z ZACHAR, AND NS HAYES
(University of North Carolina, USA).

Experimental syphilis in the rabbit: passive transfer of immunity with immunoglobulin G from immune serum

Genetic relationship between *Treponema pallidum* and *Treponema pertenue*, two non-cultivable human pathogens

Gonorrhea (clinical)

Characteristics of defaulters in treatment for infection with *Neisseria gonorrhoeae*
GL GOODHART, M KRAMER, AND AA ZAIDI (Centre for Disease Control, Atlanta, USA). *J Infect Dis* 1979; 140: 649-51.

Orbital cellulitis due to *Neisseria gonorrhoeae* in an enucleated socket
JJ FRAZIER, J MILLER, AND LK PICKERING (University of Texas, USA). *Arch Ophthalmol* 1979; 63: 2345.

Gonorrhea (microbiology)

The in-vitro and in-vivo effects of a surgical lubricant on the recovery of gonococci from the endocervical canal

Disseminated gonococcal infection in mice
Comparison of two selective media in the cultural diagnosis of gonorrhoea

Lectins in diagnostic microbiology: use of wheat germ agglutinin for laboratory identification of Neisseria gonorrhoeae

A lectin slide agglutination test has been developed for the confirmatory identification of Neisseria gonorrhoeae. With wheat germ lectin as an agglutinin, 164 of 165 clinical isolates of N gonorrhoeae gave a 3 to 4+ reaction within six to eight min. Four gonococcal isolates, even though giving negative results by the fluorescent-antibody method, gave strong positive reactions with the wheat germ lectin. Among 23 isolates of Neisseria meningitidis tested, which included representatives of serogroups A, B, C, D, X, Y, and Z, only one strain in group X gave a false-positive reaction. The nonpathogenic species of Neisseria, as well as Branhamella catarrhalis, all showed negative reactions with the wheat germ agglutinin. The novel method provides a simple, rapid, and inexpensive means for the laboratory diagnosis of gonorrhoea and obviates the need for performing second-stage sugar fermentation studies or using the more expensive fluorescent-antibody techniques.

Authors' summary

The role of natural IgG and complement in the phagocytosis of type 4 Neisseria gonorrhoeae by human polymorphonuclear leucocytes.
NL SCHILLER, GL FRIEDMAN, and RB ROBERTS (Cornell University Medical College, New York, USA).

The role of human serum components in the phagocytosis of logarithmic-phase type 4 Neisseria gonorrhoeae by human polymorphonuclear leucocytes was investigated. The requirement of fresh normal human serum (FHS) for optimal phagocytosis and the fixation of human immunoglobulin (IgG) and complement (C3) to the gonococcal cell surface suggested that both serum factors participate in the phagocytosis of these organisms. The percentage of neutrophils containing ingested organisms was directly proportional to the concentration of IgG purified from FHS. Absorption studies suggested that this natural IgG binds to a trypsin-sensitive surface protein on type 4 gonococci and cross-reacts with stationary-phase type 2 N gonorrhoeae, group C Neisseria meningitidis, and Branhamella catarrhalis, but not with logarithmic-phase type 2 gonococci or other Neisseria species. Although complement alone did not promote phagocytosis, it enhanced IgG-mediated ingestion. Studies using C2-deficient serum or serum chelators indicated that the alternative complement pathway participates in this interaction.

Authors' summary

Deoxyribonucleic acid repair capacities of Neisseria gonorrhoeae: absence of photoreactivation

Gonorrhoea screening: comparison of three techniques

Biological properties of two distinct pilus types produced by isogenic variants of Neisseria gonorrhoeae

High molecular weight antigenic protein complex in the outer membrane of Neisseria gonorrhoeae

Evaluation of the Phadebact gonococcus test, a coagglutination procedure for confirmation of Neisseria gonorrhoeae

Gonorrhoea (therapy)

Treatment of gonorrhoea caused by β-lactamase-producing strain of Neisseria gonorrhoeae with cefotaxime (letter)

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with asymptomatic NGU may be a useful indicator of infection with C trachomatis in clinics where isolation facilities for this organism are not readily available.

One criticism of the paper which could affect the results is that we are not told the time between last micturition and examination of urethral smears.

G L Ridgway

A method for the preparation of a chlamydia-group specific antigen on HeLa—229 cells infected with a strain of Chlamydia trachomatis for use in the complement fixation test

Chlorhexidine as an effective agent against Chlamydia trachomatis in vitro and in vivo

Isolation of Chlamydia trachomatis from the lower respiratory tract of adults

Lower respiratory tract specimens from 46 adult patients with pulmonary infections were cultured for Chlamydia trachomatis. Isolation was achieved in six patients with conditions varying from acute bronchitis to severe diffuse interstitial pneumonia; these cases are discussed in detail. Four patients were immunosuppressed, three after renal transplantation, and one had acute lymphatic leukaemia. Cytomegalovirus was also isolated from those receiving renal allografts. Two immunosuppressed patients died; two improved rapidly with doxycycline, one with erythromycin, and the other slowly with penicillin.

This is the first report of isolation of C trachomatis from the lower respiratory tract of adults. The pathogenesis is discussed briefly with particular reference to morbidity and mortality in the immunosuppressed patient.

R S Pattman

Chlamydia endocarditis (editorial)
Lancet 1980; i: 132.

Significance of chlamydial genital infection in male infertility

Techniques for culturing and determining antimicrobial susceptibility of Chlamydia trachomatis
TR ROTA (Massachusetts General Hospital, Boston, USA). Arch Androl 1980; 4: 63-8.

The role of Chlamydia trachomatis in genital tract and associated diseases

Infection of untreated primary human amnion monolayers with Chlamydia trachomatis

Experimental infection of the genital tract of female Grivet monkeys by Mycoplasma hominis: effects of different routes of infection

Enhancement of Ureaplasma urealyticum growth on a differential agar medium (A 7 B) by a polycyclic, putrescine

Candidosis

Inhibition of candididal activity of human neutrophil leukocytes by aminoglycoside antibiotics

Adherence of Candida albicans and other Candida species to mucosal epithelial cells
Genital herpes

Transient neurogenic bladder in genital herpes

Acylovir for suspected systemic herpes infections (letter)

Herpes simplex encephalitis in pregnancy

Storage and transport of cultures for herpes simplex virus type 2

Levamisole plus indomethacin in the treatment of herpes simplex

Different susceptibilities of skin to type 1 and type 2 herpes simplex viruses in newborn rabbits

Other sexually transmitted diseases

Aminopeptidase activity in Corynebacterium vaginale

Corynebacterium vaginale and vaginitis: a controlled trial of treatment
MJ BALSDON, GE TAYLOR, L PEA, AND R MASKELL (St Mary's Hospital, Portsmouth, UK). Lancet 1980;i: 501-3.

The clinical and microscopical diagnosis of Corynebacterium vaginale vaginitis was compared with laboratory culture, and double-blind treatment with metronidazole, oxytetracycline, and placebo assessed.

Vaginal discharge was examined for infection with C vaginale by Gram stain (Gram-variable coccobacilli and clue cells), wet film (clumps of coccobacilli and clue cells), vaginal pH, and the amine test (10% potassium hydroxide added to the wet-mount preparation and examined for a "fishy" odour). Further vaginal samples were cultured on Columbia chocolate agar for C vaginale. Patients with concomitant infection were excluded from the study as well as those with an intrauterine contraceptive device, those who had taken recent antimicrobial medication, contacts of non-specific urethritis, and those with a mucopurulent cervical discharge.

Thirty such women with a malodorous vaginal discharge were selected by the described microscopical findings and treated by the randomised double-blind method with metronidazole (400 mg twice daily), oxytetracycline (500 mg twice daily), or two placebo tablets twice daily, all for one week. Microscopy and microbiological investigations were repeated after 10 days and four weeks, and cure was accepted in the absence of an abnormal vaginal discharge and normal microscopy. Treatment failures were given one week's course of metronidazole (400 mg twice daily).

Laboratory culture confirmed the diagnosis in all but two cases initially and in 10 of 13 patients at follow up. Corynebacterium vaginale was found nine times when it was not suspected clinically. Vaginal pH was above 5-2 in all cases of C vaginale was found and was between 4-2 and 4-9 in negative samples except on one occasion. The amine test gave a positive result only when C vaginale was isolated. Comparison with 30 consecutive unselected patients confirmed the correlation between the clinical and laboratory diagnosis.

Tetracycline was effective in only half the patients treated, although 74% of the strains were sensitive in vitro, but metronidazole cured all but one of 17 patients eventually treated, although only 68% of the strains were sensitive. One of the nine placebo-treated patients was cured spontaneously.

Although the numbers examined were small, the clinical and laboratory correlation was stressed and the efficacy of metronidazole discussed in spite of the comparative in-vitro insensitivity.

R S Pattman

Sexual transmission of hepatitis A in homosexual men

We performed monthly examinations and serological tests for antibody to hepatitis A virus (anti-HA) in a study of 57 heterosexual men and 102 homosexual men followed prospectively for a mean of 8-9 months and 6-1 months respectively. The initial prevalence of anti-HA was 30% in homosexual men and 12% in heterosexual men (P<0.01). The annual incidence of hepatitis A in susceptible (seronegative) homosexual men was 22%, whereas none of heterosexual men acquired hepatitis A. Diaries concerning sexual behaviour kept by homosexual men showed that the incidence of hepatitis A virus infection was correlated with frequent oro-anal sexual contact. Hepatitis A should be considered as one of the enteric infections that appear to be sexually transmitted among homosexual men.

Authors' summary

Extensive condylomata acuminata of the vulva treated by modified simple vulvectomy

Topical treatment of penile condylomata acuminata with colchicine at 48-72-hour intervals

Intestinal parasites in homosexual men

A study of the prevalence of intestinal parasites in a group of homosexual men, attending a sexually transmitted diseases clinic in Glasgow, was undertaken. Of 118 men examined over an eight-month period, four (one of whom had symptoms of dysentery) were found to be infected with Entamoeba histolytica. Cysts of Iodamoeba buetschlii were also found in the stool of one of these men. A further two patients had giardiasis and 11 men had enterobiasis. The importance of an awareness of these conditions is discussed.

Author's summary
Amoxycillin absorption and penetration in pelvic inflammatory disease

The efficacy of amoxycillin in five cases of laparoscopically diagnosed pelvic inflammatory disease was monitored. Pelvic penetration was determined by measurement of both peritoneal fluid and plasma concentrations of amoxycillin. Thin polyethylene catheters were introduced through the abdominal wall into the recto-vaginal pouch. (Microbiological isolation on culture was not reported.)

The mean peak concentration of amoxycillin in peritoneal fluid was 6μg/ml and similar to that in blood plasma. The mean lag in peak penetration of peritoneal fluid behind plasma was two hours. The lag was most marked in two severe cases of pelvic inflammatory disease with frank purulent peritoneal exudate. Therapeutic concentrations remained detectable for seven to eight hours after a single dose of 0.5 g of amoxycillin.

Monitoring was discontinued and the patients given a course of 0.5 g amoxycillin for 10-18 days three times daily. Although the five patients had patent Fallopian tubes at the time of the study, subsequent fertility had still to be tested.

J M Harvey

Risk of pelvic inflammatory disease among intrauterine-device users irrespective of previous pregnancy

The use of intrauterine devices (IUD) in 690 patients admitted to hospital with pelvic inflammatory disease (PID or acute salpingitis) was compared with the use in a sexually active age-matched control group. Two hundred and twenty (31.9%) of the patients and 114 (16.5%) of the controls were using an IUD. Thus, the risk of PID was raised twofold by the use of an IUD. No significant difference was found between the women who had never been pregnant and those who had in the two groups. Neither was the risk of PID found to vary with age.

Authors' summary

Management of necrotizing vasculitis with colchicine—improvement in patients with Behcet's syndrome
P G Hazen and B Michel (University Hospital, Cleveland, USA). Arch Dermatol 1979; 115: 1303-6.

Acute-phase proteins, C9, factor B, and lysozyme in recurrent oral ulceration in Behcet's syndrome

Prostatism. I The correlation between symptoms, cystometric and urodynamic findings

Peri-urethral bacterial flora in women

Vaginal parasitosis
M A Garud, V Saralya, M Paraskar, and J Khokhawalla (Cama and Albless Hospital, Bombay, India). Acta Cytol 1980; 24: 34-5.

Tampon-associated vaginal ulceration