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)

A case of syphilitic uveitis

Syphilitic aneurysms of the innominate artery

Syphilis (pathology and experimental)

Influence of oxygen on respiration and glucose catabolism by Treponema pallidum

Distribution of glucose incorporated into macromolecular material by Treponema pallidum

Role of serum in survival of Treponema pallidum in tissue culture
AH FIELDSTEEL, HG STOUT, AND FA BECKER (Science Research Institute, Menlo Park, California, USA). In Vitro 1981;17:28-32.

Gonorrhoea (Microbiology)

A rapid slide coagglutination test—an alternative to the fluorescent antibody test for the identification of Neisseria gonorrhoeae

The Phadebact® Gonococcus Test, a slide coagglutination test, was compared with the Difco fluorescent antibody test for the identification of Neisseria gonorrhoeae isolated from 18-24-hour primary plates. A total of 316 morphologically characteristic, oxidase-positive, Gram-negative diplococci was tested. Altogether 298 isolates were identified definitively as N gonorrhoeae by a rapid carbohydrate utilisation test; 237 of the 298 isolates of N gonorrhoeae were identified by the coagglutination test, a sensitivity of 96%. The sensitivity of the fluorescent antibody test was 85% (254 of 298 isolates). False-positive results due to cross-reactions with non-gonococcal Neisseria were uncommon (one of 18 non-gonococcal isolates in the coagglutination test, a specificity of 94%; two in 18 in the fluorescent antibody test, a specificity of 88%). None of 14 other contaminant organisms seen frequently on primary isolation media gave positive reactions.

Interpretation of the coagglutination test proved to be difficult initially. Thirty-two (10%) coagglutination tests had to be repeated; three of the 32 (1%) of the total isolates tested remained uninterpretable.

Authors’ summary


Structural comparison of Neisseria gonorrhoeae outer membrane proteins

Emergence in the Netherlands of penicillinase-producing gonococci carrying “Africa” plasmid in combination with transfer plasmid (letter)
JDA VAN EMBDEN, B VAN KLINKEREN, MF DESSENS-KROON, AND LJ VAN WIJNGAARDEN (Rijksinstituut voor de Volksgezondheid, Bilthoven, the Netherlands). Lancet 1981;i:938.

Immune-enhanced phagocytosis of Neisseria gonorrhoeae by macrophages—characterization of the major antigens to which opsonins are directed

Factors affecting the induction of phenotypically determined serum resistance of Neisseria gonorrhoeae grown in media containing serum or its diffusible components

Comparative virulence of opacity variants of Neisseria gonorrhoeae strain P9
The effect of benzylpenicillin on strains of Neisseria gonorrhoeae in liquid and solid media

Inhibition of Neisseria gonorrhoeae by sodium polyanetholesulfonate

A mouse model for the study of gonococcal genital infection

Gonorrhoea (therapy)
Single 600-milligram oral dose of doxycycline in the treatment of gonorrhoea

Non-specific genital infection
Follicular cervicitis—colposcopic appearances and association with Chlamydia trachomatis

Follicular cervicitis was recognised in 15 (44%) of 34 women who were examined colposcopically and who were sexual partners of men with non-gonococcal urethritis. Valid results of culture for Chlamydia trachomatis were obtained in 26 cases: the organism was isolated from the cervix of five of 11 women in whom follicular cervicitis had been diagnosed but from only one of 15 whose cervices did not have this change. A similar correlation was not found for infection with Mycoplasma hominis or Ureaplasma urealyticum.

Authors' summary

Persistence of chlamydial infection after treatment of neonatal conjunctivitis

A high incidence of pharyngeal infection was found in babies with isolation-positive chlamydial conjunctivitis. Chlamydia trachomatis was isolated from the pharynx of 12 (52%) of 23 babies before treatment and was reisolated from the eyes of four (12%) of 34 and from the pharynx of 14 (41%) of 34 after treatment. C trachomatis was reisolated significantly more often from babies treated only with topical tetracycline for four weeks (75%) than from those treated with both topical tetracycline and oral erythromycin for two weeks (32%). Resolation from the eyes was associated with only minor clinical signs. Radiological signs of an inflammatory lesion in the chest were found in two of eight babies examined because of persistent cough. These signs were not associated with high or rising titres of serum chlamydial antibody.

Authors' summary

A new animal model for the study of Chlamydia trachomatis genital infections: infection of mice with the agent of mouse pneumonitis

A new animal model for the study of genital infections caused by Chlamydia trachomatis has been developed. Female mice were successfully infected after intravaginal inoculation with the C trachomatis agent of mouse pneumonitis. Evidence for infection was obtained by detection of chlamydial inclusions in smears of cervical scrapings treated with Giemsa stain. Chlamydia were observed in sections of cervical tissues examined by light and electron microscopy as well as by fluorescence microscopy. An antibody response to the agent of mouse pneumonitis was also demonstrated in sera after infection. The mouse model of genital infection with the agent of mouse pneumonitis offers an opportunity to investigate many questions related to pathogenesis and immunity associated with C trachomatis genital infections.

Authors' summary

Chlamydial serum IgG, IgA and local IgA antibodies in patients with genital tract infections measured by solid phase radioimmunoassay

Amino acid requirements of a Chlamydia trachomatis genital strain in McCoy cell cultures

Purification and partial characterization of the major outer membrane proteins of Chlamydia trachomatis

Chlamydia trachomatis infection in adults with community-acquired pneumonia
AL KOMAROFF, MD ARONSON, AND J SCHACHTER (Brigham and Women's Hospital, Boston, USA). JAMA 1981;245:1319-20.

Antimicrobial susceptibility of Ureaplasma urealyticum

An antimicrobial susceptibility test, a two tube broth dilution and disc elution method, for Ureaplasma urealyticum, was modified to incorporate some of the standard procedures of traditional antimicrobial testing. The susceptibility pattern of this species was re-evaluated by determining the effect of various antimicrobial agents on 28 vaginal isolates. All isolates were inhibited by tetracycline congeners (1-6 μg/ml) and killed by methenamine mandelate (0-6 μg/ml). All but one isolate were inhibited by erythromycin (0-4-3 μg/ml) and only eight isolates were inhibited by nalidixic acid (1-6 μg/ml) and seven were inhibited by nitrofurantoin (20-60 μg/ml). Whereas all isolates were resistant to rifampin (1 μg/ml) and trimethoprim-sulphamethobazole (5 μg/ml). The in-vitro technique described can readily be performed on isolates from individual patients before antimicrobial therapy has been started.

Authors' summary

Effects of antibiotics on dynamics of color change in Ureaplasma urealyticum cultures
Abstracts

Trichomoniasis

Lectin analysis of surface saccharides in two Trichomonas vaginalis strains differing in pathogenicity


Candidosis

Adherence of Candida albicans to human vaginal and buccal epithelial cells

Factors that may influence adherence of Candida albicans to exfoliated human vaginal and buccal epithelial cells were studied in vitro. Factors that enhanced germination enhanced adherence. Heat-killed germinated Candida organisms demonstrated poorer adherence than viable Candida organisms. The difference between adherence of C. albicans to buccal epithelial cells and that to vaginal epithelial cells was significant, as were differences among volunteers. Preincubation in fucose but not mannose, glucose, or galactose solutions, preincubation of germinated yeast or of epithelial cells in chymotrypsin or trypsin, a culture supernatant of germinated yeast killed by ultraviolet light, or pre-coating of epithelial cells with lactobacilli each inhibited adherence. These studies indicate that adherence of C. albicans is enhanced by a surface component of germinated yeast, which may be a surface protein that binds to the epithelial receptor, possibly a glycoprotein.

Authors' summary

Comparative evaluation of the Iatron serological Candida check kit and the API 20C kit for identification of medically important Candida species

Analysis of an in-vivo model to study the interaction of host factors with Candida albicans

Effect of mouse phagocytes on Candida albicans in in-vivo chambers

Clinical toxicity of clotrimazole when administered vaginally

Genital herpes

The course of untreated recurrent genital herpes simplex infection in 27 women

To determine the course of the disease 27 women who presented within 24 hours of the first sign or symptom of a recurrence of genital herpes were observed daily for four days and then on alternate days until healing had occurred. After the lesions had healed, cervical specimens were cultured weekly for two months or until the next recurrence.

Prodromal symptoms (local irritation and neuralgia) were reported in 22 (82%) women, and in 13 of 19 women the recurrence began 5-12 days before the menses (p=0.01). The mean healing time was 8.0±2.8 days; after a peak on the second day pain disappeared after a mean of four days. The mean duration of virus shedding from the lesions was 4.8±2.7 days and was not associated with the size of the lesions. All herpes simplex virus (HSV) isolates were of type 2. Although cervical shedding of HSV was detected in nine (33%) cases, cervical or vaginal lesions were not noted even when external lesions were present. Between recurrences only one of 64 cervical specimens taken from the 27 women was culture-positive for HSV. Within one month of the study more than 60% had another recurrence of genital herpes.

Comparisons are made with other surveys showing longer healing times. The authors feel that as specific treatment was not offered patients with milder disease might have been more likely to volunteer. They conclude that the risk of transmission of HSV through sexual intercourse during asymptomatic periods is small.

RSPatterson

Neurogenic bladder after vaginal herpes infection (letter)

Production of hybrid cell lines secreting antibodies to herpes simplex virus type 2

Assay of type-specific and type-common antibodies to herpes simplex virus types 1 and 2 in human sera

Other sexually transmitted diseases

Presence of human papillomavirus antigens in juvenile multiple laryngeal papilloma

Although a human papillomavirus (HPV) has been considered to be a cause of juvenile laryngeal papillomata, only in rare cases have particles resembling papillomavirus been demonstrated by electron microscopy in the nuclei of epithelial cells. In this study juvenile laryngeal papillomata, solitary laryngeal papillomata in adults, and cylindrical cell papillomata of the nose and sinuses were examined immunocytochemically. By using an antiserum capable of recognising a common papillomavirus group antigen (prepared against disrupted papillomavirus virions), it was found that 11 out of 19 juvenile laryngeal papillomata studied contained cells staining for papillomavirus antigens. Similar
staining was not found in either five adult solitary papillomas or nine cylindric cell papillomas.

As only small foci of activity were detected in many of the juvenile papillomatosis this may explain the difficulties experienced in demonstrating papovavirus particles by electron microscopy. No lesions gave positive results when treated with an antiseraum directed specifically at HPV-type 1 (normally associated with plantar warts) and no reactivity was detected; as yet no further specific sera are available.

The evidence supports the theory that the papillomavirus is implicated in the aetiology of juvenile laryngeal papillomata.

**R S Pattman**

**Immunologic detection of condylomata acuminate-specific antigens**


A rabbit serum fraction was prepared which contained antibody specific for unique antigen(s) found in human condyloma acuminate tissue but not in other human papillomatous or normal tissues. Indirect immunofluorescent staining of cryostat sections of human tissues demonstrated an intense nuclear fluorescence in cells of the prickle cell layer of condylomata acuminate sections. Nuclear fluorescence was not apparent in cells in the basal or dermal layers. The serum fraction did not elicit nuclear fluorescence in epithelial cells of tissue from human vulva, human foreskin, juvenile hand wart, plantar wart, or squamous cell papilloma of the cervix. This demonstration of antigens unique to epithelial cells of condylomata acuminate may prove useful in the often difficult diagnosis of cervical condylomata.

**Authors’ summary**

**Intralesional bleomycin injection in treatment of condyloma acuminatum**

**S Figueroa and AR Gennaro (Castle O’Neill S, Hato Rey, USA). Dis Colon Rectum 1981; 23: 550-1.**

**Miscellaneous**

**Isolation of N meningitidis from patients in a gonorrhoea screening programme: a four-year survey in New York City**


During a four-year survey of two groups of patients for gonorrhoea—one consisting of male and female patients attending a VD control department, the other of homosexual men attending a special clinic—tests for Neisseria meningitidis were included. A total of 964 N meningitidis strains were recovered from the genitourinary tract or anal canal. The isolation rate had trebled during the period of the survey. The majority of strains came from the anal canal of homosexuals. In only 41 instances were gonococci and N meningitidis strains present in the same individual. There was evidence that N meningitidis was responsible for urethritis or proctitis in isolated cases, and three cases were epidemiologically linked.

It is concluded that the isolation rate of N meningitidis from sexually active sites is rising and that they are potential pathogens, especially in homosexual men. The survey also confirmed reports that gonococci and meningococci are comparatively rarely found together in the same individual. The authors consider that N meningitidis isolated in homosexual men with symptoms may be causative and should be considered in the clinical management of such patients.

**G W Csonka**

**Serological evidence for the role of Bacteroides fragilis and Enterobacteriaceae in the pathogenesis of acute pelvic inflammatory disease**

**J PaaVonen, VV Valtonen, DL Kasper, M Malkamaki, and H MakeLA (University of Helsinki, Helsinki, Finland). Lancet 1981; i: 293-5.**

One hundred and one women with acute pelvic inflammatory disease (PID) were studied. Evidence of gonococcal, chlamydial, and enterobacterial infection was sought by the use of cultural and serological methods. Significant concentrations of haemagglutinating antibodies against enterobacterial common antigen (ECA) and anti-Bacteroides fragilis IgM were found in 30 and 28 patients respectively. Although Neisseria gonorrhoeae and Chlamydia trachomatis respectively were isolated from the cervix of 26 and 32 women with acute PID, there was no significant difference in the prevalence rate of ECA or B fragilis antibodies (25-32%) between patients infected with these organisms and those who were not.

Serological evidence of enterobacterial infection was more commonly found in patients with an adnexal mass, a longer duration of symptoms, or use of the intrauterine contraceptive device.

The data presented supports the concept that PID has a polymicrobial aetiology.

**A McMillan**

**Metronidazole metabolite and Gardnnerella vaginalis (Corynebacterium vaginale) (letter)**

**MJ Balsdon and D Jackson (St Mary’s Hospital, Portsmouth). Lancet 1981; i: 1112.**

**Behcet’s disease: lack of correlation of clinical manifestations with HLA antigen**


**HLA antigens in patients with scabies**

**ES Falk and E Thorsby (University of Tromsø, Tromsø, Norway). Br J Dermatol 1981; 104: 317-20.**

**Vaginal absorption of povidone iodine**

**H Vorherr, UF Vorherr, P Mehta, JA Ulrich, and RH Messer (University of New Mexico, Albuquerque, USA). JAMA 1980; 244: 2628-9.**