Abstracts

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

**Syphilis and other treponematoses (clinical and therapy)**

**Neurosyphilis**


**Production of treponemical concentration of penicillin in cerebrospinal fluid**


**Current features of the clinical picture and course of syphilis**


**Syphilitic phlebitis simulating branch vein occlusions**


**Primary syphilis of the tonsil: presentation of four cases**


**Syphilis (pathology and experimental)**

**Plasmid DNA in Treponema pallidum (Nichols): potential for antibiotic resistance by syphilis bacteria**

MV Norgard and IN Miller (Department of Microbiology and Immunology, University of California, USA). *Science* 1981; 213: 553-5.

Treponemal DNA was obtained from purified *T pallidum* (Nichols) by treatment with lysozyme in a hypotonic lysis buffer followed by ribonuclease. Column chromatography on Sephacryl S-300 to remove impurities showed a peculiar shoulder just before the peak due to RNA. Further analysis showed this to be DNA which was not the same as that found in rabbit microchondrial cells. The molecules were examined by transmission electron microscopy and found to be circular, 3.6-2.4 um in length, and 7.9-10.4 daltons in weight. The authors think that approximately 50 plasmids existed in each cell of *T pallidum*.

The importance of this finding is in the role that plasmids play in conferring resistance to antibiotics. It could mean that resistance to penicillin in *T pallidum* is now a possibility in the near future.

G D Morrison

**Fluorescent treponemal antibody-absorption double-staining procedure**


**Gonorrhoea (clinical)**

**Gonococcal urethritis with bilateral tysonitis and periurethral abscess**


Screening for gonorrhoea in a prenatal clinic in South East Asia

Electron microscopy of the gonococcal capsule

Primary isolation of N gonorrhoeae on haemoglobin-free NYC medium

β-lactam susceptibility of Neisseria gonorrhoeae isolated from pelvic inflammatory disease

Comparative in vitro activity of Mk-0366 and other selected oral antimicrobial agents against Neisseria gonorrhoeae

Effects of β-lactam antibiotics on peptidoglycan synthesis in growing Neisseria gonorrhoeae including changes in the degree of O-acetylation

Ampicillin treatment of N gonorrhoeae in vivo: an experimental study in rabbits

Evaluation of the Phadebact gonococcus test in the identification of Neisseria gonorrhoeae in a routine diagnostic laboratory

The Phadebact gonococcus test, a coagglutination procedure for confirming the identity of presumptive N gonorrhoeae isolates, was evaluated under normal working conditions in a routine diagnostic laboratory and compared with an immunofluorescence technique. Of 166 isolates of N gonorrhoeae from urogenital, rectal, and pharyngeal sites, 164 gave a positive coagglutination reaction and one of the two negative isolates gave a positive reaction on retesting after subculture. There were no cross-reactions with other organisms tested. This was in contrast to the immunofluorescence technique; with this method, three of 46 isolates of N meningitidis fluoresced brightly and a further 17 isolates of N meningitidis gave reactions that were difficult to interpret.

The coagglutination test is rapid, simple, and a more specific alternative to immunofluorescence.

Authors' summary

Gonorrhoea (therapy)

Comparative in vitro activity of eight cephalosporins on 108 strains of N gonorrhoeae and 60 strains of N meningitidis

A three-day doxycycline regimen for treatment of gonorrhoea

Comparative study between gentamicin and spectinomycin in the treatment of infections due to penicillin-resistant gonococci

Epidemiology and control of non-gonococcal urethritis and genital chlamydial infections—a review

Evaluation of doxycycline hylate in the treatment of non-gonococcal urethritis

Chlamydial infection of the female genital tract with emphasis on pelvic inflammatory disease—a review of Scandinavian studies

Chlamydial infections. A worldwide problem: epidemiology and implications for trachoma therapy

Recovery and identification of human genital tract mycoplasmas

Therapy for non-gonococcal urethritis: double-blind randomised comparison of two doses and two durations of minocycline
Chlamydial genital infections—manifestations and management

Cultural method for large-scale screening for Chlamydia trachomatis genital infection

Established methods for the culture of C trachomatis are time-consuming, labour intensive, and not generally suitable for screening purposes. This method incorporates two new ideas. Firstly, a microplate consisting of 96 individual wells in which idoxuridine-treated McCoy cells are grown as monolayers is used as the culture system, and, secondly, periodic acid-Schiff reagent is used for staining (tissue culture cells stain blue and chlamydial inclusions bright magenta). The microplate may be processed as an individual unit (cross-contamination between the closely spaced wells being avoided by careful technique) obviating the need to centrifuge and stain cultures individually. PAS staining enabled direct microscopy to be used and compared favourably with darkfield microscopy of Giemsa-stained conventional cover-slip cultures, the inclusions being more readily apparent.

Comparison of inclusion counts on cover-slip and microplate wells showed the latter to be about 7.6-fold less sensitive (mainly due to the smaller inoculum used). In practice this decreased sensitivity would only lead to false-negative results on those specimens showing 1-7 inclusions by the coverslip methods. It has been shown that such low counts occur in only a small proportion of chlamydia-positive patients. It is therefore claimed that if the microplate method is applied to women attending STD clinics, for example, it would detect 91.8% of those in whom C trachomatis infection could be demonstrated by conventional methods.

This technique could be applied to the examination of 384 (4 x 96 wells) specimens concurrently and is sufficiently sensitive to form the basis of a chlamydial culture service for patients attending STD clinics.

J R Wilcox

Reiter's disease

Reiter syndrome in association with enteritis due to Campylobacter fetus ssp jejuni
A PONKA, J MARTIO, AND TU KOSUNEN (Department of Bacteriology and Immunology, University of Helsinki, Finland). Ann Rheum Dis 1981;40:414-5.

Reiter's syndrome—a review and case report

Cell-mediated immune responses of synovial mononuclear cells to sexually transmitted, enteric, and mumps antigens in patients with Reiter's syndrome, RA, and AS

Reiter's syndrome—evaluation of preliminary criteria for definite disease

A retrospective evaluation of 83 patients with Reiter's syndrome (RS) and 166 controls with arthritis was carried out to assess the preliminary criteria for definite RS. Data analysis was based on the statement that Reiter's syndrome consists of an episode of peripheral arthritis of more than one month's duration occurring in association with urethritis or cervicitis or both. During the initial episode of RS, 70 of the 83 patients with RS satisfied the criteria, yielding a sensitivity of 84.3%.

Authors' summary

Reiter's disease

Tissue response to the blastospores and hyphae of Candida albicans in mice

Reponses of human peripheral lymphocytes to soluble and insoluble antigens of Candida albicans

Genital herpes

Concurrent oral and genital infection with an identical strain of herpes simplex virus type I restriction endonuclease analysis

Inhibition of herpes simplex virus transformed and non-transformed cells by acycloguanosine: mechanisms of uptake and toxicity
RL DAVIDSON, ER KAUFMANN, CS CRUMPacker, AND LE SCNIPPER (Children's Hospital Medical Center, Boston, USA). Virology 1981;113:9-19.

Genital herpes simplex

Risk of recurrence after first episodes of genital herpes

To define risk factors associated with recurrent genital herpes simplex virus infection caused by either type I or 2 herpesvirus (HSV-1 or HSV-2), 137 patients with a first symptomatic episode of the disease and 87 with a recurrent episode were studied prospectively. First episodes were divided into 78 primary infections (no antibodies present), HSV-1 infections were less frequent and less likely to recur than HSV-2 infections. Of primary first episodes, 18% were caused by HSV-1 compared with 75%
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of non-primary first episodes and 2% of recurrent episodes. Moreover, during follow up of first-episode patients, only 14% of HSV-1 infections recurred compared with 60% of HSV-2 infections. Recurrences were more likely to follow an index recurrent episode than an index first episode, whether primary or non-primary, and to occur in men than in women. Among patients with primary HSV-2 infections the probability of recurrence was directly related to the titre or presence of neutralizing antibody to HSV-2 in convalescent-phase serum.

Authors' summary

Other sexually transmitted diseases

Sexual transmission of enteric protozoa and helminths in a venereal disease clinic population
SC PHILIPS, D MILDVan, DC WILLIAM, ET AL (Beth Israel Medical Center, New York, USA). N Engl J Med 1981;305:603-6.

The prevalence of enteric protozoan and helminthic infections and the associations between infection and gender, sexual preference, and sexual practices in 180 consecutive patients at a venereal disease clinic were examined. Of 163 men, 29 were infected with one or more enteric parasites. Of the 17 women had an enteric infection. The prevalence of infections with Entamoeba histolytica or Giardia lamblia (or both) was 21.5% in homosexual men, 6.2% in bisexual men, and 0% in heterosexual men. There were significant associations between oro-anal sexual contact and infection with E histolytica (p<0.01) or with helminths (p<0.05). Homosexuality and oro-anal contact were the most important risk factors for E histolytica, G lamblia, and helminthic infections. Hyperendemic enteric protozoan infection rates in homosexual men appear to be related to three factors: the original endemic level in the general population; the prevalence of sexual acts that facilitate transmission; and the frequency of exposure to an infected person.

Authors' summary

Public health and social aspects

Syphilis and gonorrhoea: epidemiology update

Penicillinase-producing gonococci in Britain

The gay report on sexually transmitted diseases

Seroagrouping and auxotyping for epidemiological study of β-lactamase-producing Neisseria gonorrhoeae strains isolated in Sweden

Human papilloma virus type 1 purified from human genital warts

Human papilloma virus (HPV) was isolated from a pool of genital warts. The electrophoretic mobility of virion proteins was studied by SDS polyacrylamide gel electrophoresis and showed the same pattern as that obtained with HPV-1. The analysis of DNA after restriction enzyme digestion with the endonucleases Hind III and Hae III and nucleic acid hybridisation did not show any difference with HPV-1. The viral particles were agglutinated by anti-HPV-1 serum, as shown by the electron microscopic particle agglutination test. Furthermore, the immunological properties of this virus were investigated with guinea pig anti-serum. Serologically, no antigenic cross-reaction between common and genital wart viruses was shown by immunodiffusion and immunofluorescence tests, whereas cross-reactions were detected between plantar and genital wart viruses. These results possibly indicate that HPV-1 can induce plantar warts as well as genital warts.

Authors' summary

Public health implications and control of sexually transmitted chlamydial infections

Initiation of the sexually transmitted diseases prevention/training program
S MAROGIS (Center for Disease Control, Atlanta, USA). Sex Transm Dis 1981;8:87-8.

Failure to identify venereal disease in a lesbian population
P ROBERTSON AND J SCHACHTER (Santa Monica, California, USA). Sex Transm Dis 1981;8:75-6.

An evening clinic specifically designated for a study into sexually transmitted diseases and the prevalence of cervical dysplasia in sexually active lesbians (SAL) was set up for three months in the autumn of 1978 at San Francisco General Hospital. An SAL was defined as a woman who had been sexually active solely with women in the past six months. Of 148 women, 13% had been sexually active with bisexual women; the remainder were exclusive lesbians. In the previous year the mean number of partners was 2-3 (range 1-30) and 53% had one partner only. Eighty-nine per cent had had previous coital experience with men. Ages ranged from 17-51 years, mean 28 years; 92% were Caucasian.

Recognised routine methods were used to test for syphilis, cervical gonorrhoea, and both herpes simplex and Chlamydia trachomatis infections of the cervix. Cervical cytology was studied using the Papanicolaou smear. No apparent sexually transmitted diseases were found. Cervical atypia, ranging from mild dysplasia to carcinoma in situ, was detected in four (2-7%) women. The authors suggest that routine screening for venereal disease may not be cost-effective in a lesbian population, but that the routine examination of Papanicolaou smears should be encouraged.

The methods used for screening for sexually transmitted diseases lack tests for detecting T vaginalis and C albicans infections as well as urethral infections.

Michael Waugh
Miscellaneous

Therapeutic decisions in the treatment of sexually transmitted diseases: an overview

Diagnosis and treatment of pelvic inflammatory disease in the emergency room
RL SWEET (San Francisco General Hospital, San Francisco, USA). Sex Transm Dis 1981;8 suppl 2:156-63.

Pelvic inflammatory disease in the United States: incidence and trends in private practice
RK SJ JOHN, J BLOUNT, AND O JONES (Center for Disease Control, Atlanta, Georgia, USA). Sex Transm Dis 1981;8:56-61.

Pelvic inflammatory disease in the United States: epidemiology and trends among hospitalised women

Granuloma venereum—a rare imported venereal disease
H HOYER AND K WEISMANN (Finsen Institute of Dermatology, Copenhagen, Denmark). Hautarzt 1981;32:374-5.

Rapid identification of Corynebacterium vaginale in non-purulent vaginitis

To assess the accuracy of a simple set of tests which can be performed on suspected colonies of Corynebacterium vaginale on the day of isolation, 1402 unselected women attending gynaecological clinics were studied. Samples from the endocervix and vaginal fornices were cultured on selective media for Neisseria gonorrhoeae, Trichomonas vaginalis, Candida and related yeasts, anaerobic pathogens, and C vaginale using the modified peptone starch dextrose (PSD) agar of Dunkleberg and growth under anaerobic conditions compared with 5% CO₂. Suspicious colonies (white with slightly darkened centres and displaying starch hydrolysis) were Gram-stained, Albert-stained, and tested for catalase production. Those isolates that were Gram-variable diphtheroid bacilli producing metachromatic granules and catalase-negative were recorded as C vaginale.

Of the 1402 patients, C vaginale was identified in 380 but was only considered to be pathogenic in 70 who complained of an abnormal vaginal discharge. Of these 70, C vaginale was confirmed in 66 using the described tests, a 94% rate of accurate identification. When the hydrolysis of hippurate, specific for C vaginale, was added the accuracy was increased to more than 97%. All the isolates grew under anaerobic conditions but only 70% under CO₂, and a heavy virtually pure growth of C vaginale was found in 66 of the 70. The appearance of clue cells in the vaginal discharge correlated poorly with the culture results (present in about 20%), but a typical Gram-stained appearance of (a) few eosinophil leucocytes, (b) many epithelial cells, and (c) masses of Gram-variable coccobacilli was found in all 70.

With the increasing acceptance of the role of C vaginale in non-purulent vaginitis the advantages of rapid identification are obvious; however, its role in such a subjective complaint (82% were allegedly asymptomatic in this survey) requires further elucidation.

R S Pattison