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ABSTRACT

Presented are abstracts of documents and research pertaining to the clinical description, laboratory diagnosis, management, and therapy of syphilis and gonorrhea. Abstracted case studies of other minor venereal and related diseases are also included, as are bibliographies on current research and evaluation, public health methods, and behavioral studies. Also presented is a list of current books in print. (Related documents: SP 007 495 and SP 007 496.) (JB)

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FOREWORD

Current Literature on Venereal Disease presents a survey of recently published literature in the field. Effort is made to keep the abstracts as current as possible and sufficiently informative to enable the reader to decide whether the original article would be of interest to him. For the benefit of the reader, where possible the address of the first author is included with each abstract. Publication of the abstract does not necessarily imply endorsement by the U.S. Public Health Service of the original article or of commercial products or other drugs or methods of therapy mentioned therein.

In compiling these abstracts we utilize the Medical Literature Analysis and Retrieval System (MEDLARS) of the National Library of Medicine. Under this system, 2,300 foreign and domestic biomedical periodicals are searched for material dealing with or related to venereal disease. We also utilize the libraries of Emory University, the Center for Disease Control and other federal agencies.

From time to time, as new books appear which deal with the venereal diseases, a list will be appended. Again, publication of such a list does not imply endorsement by the U.S. Public Health Service.

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DIAGNOSIS AND MANAGEMENT

SYPHILIS

Clinical

INFANTILE CONGENITAL SYPHILIS. PRESENTING WITH BILATERAL ORCHITIS. Rattan Singh, Devinder Kaur, and M. Parameswaran—Departments of Dermatology and Venereology, Maulana Azad Medical College, New Delhi 1, India. BR J VENER DIS (London) 47:206-208, June 1971.

A case is reported of infantile congenital syphilis manifested by bilateral orchitis and hyperostotic lesions of both humeri, particularly involving the upper end of the left humerus. At the age of 15 days, hyperostosis appeared alone and was not accompanied by evidence of osteochondritis. The child was given injections of PAM 150,000 units intramuscularly daily for 16 days. There was a dramatic reduction of the size of the testicular swelling, but there was no appreciative change in the left shoulder. Eight months later, skiagrams of the skull and shoulders were normal, the hyperostosis seen earlier at the upper ends of the humeri had completely resolved, and VDRL tests were normal. A long-term follow-up of this case is planned.

* * *

CONGENITAL SYPHILIS. William H. Eaglstein—Naval Dispensary, Washington, D.C. 20360. ARCH DERMATOL (Chicago) 103:524-526, May 1971.

“The increasing incidence of acquired syphilis in our young population makes mandatory a thorough knowledge of congenital syphilis.” In the case presented, the diagnosis should have been obvious to one aware of the skin findings of congenital syphilis. However, the recent incidence of congenital syphilis has been so low that in many hospitals there have been no examples of florid infantile congenital syphilis for a period of years.

In the case presented, the infant's mother received prenatal care but an STS was not done after the first trimester and her syphilitic infection was not detected. The infant was apparently healthy at birth. Two months later the infant was admitted to the hospital because of persistent diarrhea and dehydration. A perianal rash was noted and the discharge diagnosis was viral gastritis. Soon after the mother noted an eruption on her palms, and when lesions appeared over other areas of her body she sought medical advice. She was seen in the outpatient department for two months, and the eruption was diagnosed as German measles, neurodermatitis, and toxic erythema. When seen in the dermatology clinic, *T. pallidum* were found in a darkfield preparation from a perianal lesion. One day after diagnosis of secondary syphilis was made on the mother, a rash was noted on the infant. Darkfield examination showed *T. pallidum*, FTA-ABS and VDRL were positive, and periosteal thickening of the femurs compatible with congenital syphilis was found on x-ray.

* * *

DIAGNOSTIC CYTOLOGY OF THE STOMACH IN GASTRIC SYPHILIS. REPORT OF TWO CASES. Joao C. Prolla, Seibi Kobayashi, Yuri Yoshii, Yasutaka Yamaoka, and Tatsuzo Kasugai—Department of Medicine, University of Chicago, Illinois. ACTA CYTOL (Baltimore) 14:333-337, May 1970.

Authors' summary: The cytology of two cases of gastric syphilis is presented. The presence of multinucleated giant cells of Langhans' type, epithelioid and fibroblast-like cells were the prominent features in both cases. The differential diagnosis with malignant cells is emphasized and discussed. A review of the literature did not reveal any other previous cytologic review of gastric syphilis.

* * *

SYPHILIS LESIONS OF THE STOMACH TREATED SURGICALLY (POLISH). A. Kulicz and J. Rudzki—Bytom, ul. Piekarska 15, Poland. *POL PRZEGL CHIR (Warszawa)* 43:641-643, 1971.

English summary: "A woman patient, forty-seven years of age, had felt pains in epigastrium for a year. Radiological examination and gastroscopy revealed the presence of gastric ulcer. Despite the treatment the complaints became more and more intense. A partial gastrectomy was then performed. Histopathological examination of the excised specimen revealed that the morbid lesions were of syphilis origin."

* * *

CLINICO-ROENTGENOLOGIC MANIFESTATIONS OF GUMMATOUS SYPHILIS INVOLVING THE SOFT TISSUES (RUSSIAN). P. D. Khasov. *VESTN DERMATOL VENEROL (Moskva)* 45:85-87, February 1971.

English summary: "Clinico-roentgenological analysis was made for 498 patients with different tumor and tumor-like diseases of soft tissues. Among them 4 subjects were found with syphilitic gummas in the stage of ulceration. The importance of contrast-free roentgenography in differential diagnosis of syphilitic gummas is emphasized. The presence of uneven intensive darkening on the site of the ulcer with extensive clearing in the center differentiates syphilitic ulcer from cancerous ulcer in which a newly formed tissue dominates over ulceration. Rapid and significant increase of induration in soft tissues and appearance of disintegration within a short period of time is characteristic for syphilitic gumma. In trophic ulcer there is no significant increase of soft tissues around the ulceration, no fungoid outgrowths, and no deep infiltration of underlying soft tissues are noted."

* * *

SARCOIDAL REACTION OF THE SKIN IN SYPHILIS. Rattan Singh, Devinder Kaur, and M. Parameswaran—Department of Dermatology, Maulana Azad Medical College, New Delhi 1, India. *BR J VENER DIS (London)* 47:209-211, June 1971.

A case is reported of late syphilis with skin lesions having the clinical and histopathological

features of sarcoidosis. The lesions had appeared insidiously over the past 18 years, they were asymptomatic and had never ulcerated or exuded. They were distributed symmetrically on the buttocks, arms, legs, and involved both extensor and flexural areas. The VDRL test was positive, and there was rapid cure with penicillin treatment.

* * *

WITKOP DISEASE. TWO "FAVOID" CASES DUE TO SYPHILIS. P. S. Jain—Department of Surgery, A. B. U. Hospital, Zaria, Nigeria. *BR J VENER DIS (London)* 47:216-217, June 1971.

Author's summary: In recent years witkop (white head) has been authoritatively described as being due to favus and not, as formerly believed, to syphilitic infection. Two cases in boys are described, in which there was no evidence of a fungal cause. In both there was serological evidence of syphilis and there was prompt healing after antisyphilitic therapy. So far as the author can discover, witkop has not previously been described as occurring in Northern Nigeria.

* * *

SYPHILITIC OSTIAL CORONARITIS. ANALYSIS OF 6 OBSERVATIONS. P. Michaud, H. Termet, J. Chassignolle, J. P. Rassat, G. Dureau, and F. Teneriello—Clinique de Chirurgie Cardiaque, Faculte de Medecine de Lyon, Lyon, France. *J CARDIOVASC SURG (Torino)* 12:254-263, May-June 1971.

Authors' conclusions and summary: The clinical and anatomic characteristics of syphilitic ostial coronary disease and the possibilities of its surgical treatment were studied, analyzing five personal observations.

Syphilitic angina is characterized by a rapidly developing anginal syndrome and resistance to medical therapy. Aortic involvement is always present and may require a prosthetic valve replacement. The ECG shows signs of left ventricular hypertrophy and of myocardial ischemia.

The extent of the occlusion in the two orifices may be equal or different, with coronary blood flow reduced to less than one half of its normal volume. The anatomic lesions are susceptible to be corrected with endarterectomy; operative difficulties may be encountered if a completely obstructed orifice is invisible.

Local cooling and perfusion through the disobliterated left coronary ostium protects the myocardium and facilitates the prompt resumption of cardiac function.

In this series, one patient died postoperatively following a technically difficult valve replacement with a Starr prosthesis.

Immediate and lasting relief of anginal pain was obtained in all survivors; the ECG signs of ischemia disappeared as well. Similar to the few cases reported in the literature, the results obtained in this type of disorder may be considered among the best that direct coronary artery surgery can offer.

* * *

LIVER DISEASE ASSOCIATED WITH EARLY SYPHILIS. Alfred L. Baker, Marshall M. Kaplan, Hubert J. Wolfe, and John A. McGowan—Tufts-New England Medical Center, 171 Harrison Avenue, Boston, Massachusetts 02111. *N ENGL J MED* (Boston) 284:1422-1423, June 24, 1971.

This case report is an example of a patient with early syphilis who presented with jaundice. A 36-year-old homosexual was admitted with jaundice, dark urine and clay-colored stools of two days' duration. Physical examination was within normal limits except for mild icterus, a slightly enlarged liver, and a faint macular rash over the buttocks. Laboratory evaluation included a positive VDRL test; liver-function tests showed a bilirubin of 6.4 mg total. Hepatitis-associated antigen was not present. Proctoscopy revealed several shallow ulcers, 1 to 3 mm in size, with overlying clotted blood 5 to 10 cm from the anus. Punch biopsy showed a dense lymphocytic and histiocytic infiltrate in the tunica propria, consistent with a primary syphilitic lesion. Further VDRL, RPCF and FTA-ABS tests were all positive. Treatment with 800,000 units intramuscular penicillin was given daily for 10 days. One week after the last injection the

symptoms had completely disappeared, and the total bilirubin was 0.4 mg per 100 ml, the alkaline phosphatase 16.4 Bodansky U, and the serum glutamic oxalacetic transaminase 320 Karmen U. Three weeks later the transaminase and alkaline phosphatase had also returned to normal. Warthin-Starry silver stains were done on the liver and rectal biopsy tissue. The rectal lesions were packed with spirochetes, but none were seen in the liver.

* * *

LIVER DISEASE ASSOCIATED WITH SECONDARY SYPHILIS. Richard V. Lee, George F. Thornton, and Harold O. Conn—Yale University School of Medicine, 333 Cedar Street, New Haven, Connecticut 06510. *N ENGL J MED* (Boston) 284:1423-1425, June 24, 1971.

Authors point out that jaundice occurring as an unusual complication of early syphilis has been recognized for 400 years. However, knowledge of the liver disease associated with secondary and early latent stages of syphilis is very inadequate. Since 1943, the authors have been able to find in the literature only six patients with this complication. A case is reported of a patient who presented with inflammatory liver disease characterized by jaundice, hepatomegaly, and hepatic tenderness. The features appeared promptly after penicillin was started.

The laboratory pattern, which showed modest elevation of serum bilirubin and glutamic oxalacetic transaminase, was characterized by a disproportionate elevation alkaline phosphatase. This enormous increase declined progressively after treatment, but the alkaline phosphatase was still elevated long after other liver-function tests had returned to normal values. The proportionate elevation of 5'-nucleotidase levels late in the illness reinforced the impression that the increased alkaline phosphatase was of hepatic origin.

In addition to liver disease, patient had evidence of a renal lesion, with proteinuria and cylindruria, and nonspecific urethritis. The urethritis and nephritis cleared rapidly with penicillin therapy.

* * *

ACUTE CHOROIDORETINITIS IN SECONDARY SYPHILIS. PRESENCE OF SPIRAL ORGANISMS IN THE AQUEOUS HUMOUR. P. A. MacFaul and R. D. Catterall—Department of Ophthalmology, Middlesex Hospital, London, England. BR J VENER DIS (London) 47:159-161, June 1971.

A case is described of bilateral, acute, syphilitic choroidoretinitis in a patient with late secondary syphilis, in whom spiral organisms were detected in the aqueous humor. At the time of the first examination only the right eye was abnormal, with a dense anterior vitreous haze associated with a patch of active choroidoretinitis in the lower nasal quadrant. After 7 days' treatment with local corticosteroid drops and mydriatics, the uveitis was more marked. Systemic prednisolone was then started; after one week there was slight improvement of the visual acuity in the right eye. After a further 17 days the vision in the left eye was blurred. Examination revealed that visual acuity was reduced to less than 6/60 in both eyes. The uveitis in the right eye was more marked, but the left eye now showed dense vitreous haze and macular edema. Patient was then admitted to the hospital for further investigation. Apart from the visual findings, physical examination revealed enlarged inguinal lymphatic nodes, discrete and nontender, and several fleshy lesions on the prepuce suggestive of condylomata lata. Wassermann, RPCF, VDRL and FTA-ABS tests were positive. The dose of prednisolone was increased because of the progressive visual loss, and within 48 hours the vitreous haze had subsided, revealing widespread multifocal choroidoretinal lesions. Following treatment with daily intramuscular injections of 600,000 units procaine penicillin for 14 days and, in addition to the systemic corticosteroids, the daily atropine drops and prednisolone drops 3 times daily, the condylomata lata disappeared and eyes improved rapidly. Authors comment that in the present state of knowledge it is probably desirable to give antitreponemal therapy simultaneously with or immediately after the use of systemic or local corticosteroids, not only in late syphilis but also in early infectious syphilis.

* * *

METRONIDAZOLE AS A POSSIBLE CAUSE OF DIFFICULTIES IN DIAGNOSIS OF SYPHILIS (RUSSIAN). I. I. Ilyin, R. G. Rostova and V. A. Pasechnik. VESTN DERMATOL (Moskva) 45:74-76, February 1971.

English summary: "Eleven patients suffering simultaneously from secondary relapsing syphilis and urogenital trichomoniasis were given antitrichomonal treatment with metronidazole in a dose of 0.25 g 4-5 times daily for 5-6 days (the course dose 5-7 g). In addition to cure of trichomoniasis there was flattening and reduction in size of hypertrophic papules the surface of which became dry and there occurred epithelization of erosion elements. The number of *T. pallidum* in the exudate decreased (down to complete disappearance by the 6th day of treatment in 9 out of 11 patients), their movement slowed down and some specimens changed their form. After administration of penicillin spirochaetal fever was either modified or was absent completely. Thus, antitrichomonal treatment with metronidazole in mixed infection may make detection of syphilis difficult."

* * *

Laboratory Diagnosis

VALIDITY OF THE VDRL TEST ON CEREBROSPINAL FLUID CONTAMINATED BY BLOOD. N. N. Izzat, J. K. Bartruff, J. M. Glicksman, W. R. Holder, and J. M. Know—Department of Dermatology and Syphilology, Baylor College Of Medicine, Houston, Texas 77025. BR J VENER DIS (London) 47:162-164, June 1971.

Authors' summary: The "bloody tap" was experimentally reproduced as it might occur in syphilis patients by adding known quantities of VDRL reactive blood to nonreactive cerebrospinal fluid. The quantities of whole blood required to convert 1 ml. cerebrospinal fluid to seropositive ranged from 50 lambda [1 lambda = 0.001 ml.] for 1:1 titre blood to 3 lambda for 1:256 titre blood. Three lambda of whole blood per ml. of cerebrospinal fluid caused a definite blood color, whereas 1 lambda did not. With

VDRL titres of 1:256 or below. sufficient whole blood to cause a false positive cerebrospinal fluid VDRL test produces visibly bloody cerebrospinal fluid.

* * *

EVALUATION OF THE AUTOMATED FLUORESCENT TREPONEMAL ANTIBODY TEST FOR SYPHILIS. Joel H. Hornstein, Cornelius W. Gates, and Sue M. Brandon—Serology Section, Georgia Department of Public Health, 47 Trinity Avenue, S.W., Atlanta, Georgia 30334. J LAB CLIN MED (St. Louis) 77:885-890, May 1971.

“The need for increased serologic testing for syphilis has placed added importance on the fluorescent treponemal antibody absorption (FTA-ABS) test as a confirmatory tool of the diagnostician. However, the daily workload is limited by the availability of qualified personnel, complexity of the procedure, and expense of operation. This study was made in order to evaluate the automated fluorescent treponemal antibody (AFTA) test by comparing it to the FTA-ABS test and clinical diagnosis. According to the patients' clinical diagnosis, fresh and frozen specimens were classified as normal, disease other than syphilis, and syphilis.” On samples (741) from 219 specimens there was 93.4 percent complete agreement between methods. Greater agreement between tests was obtained with fresh, as opposed to frozen serum (95.3% and 92.5% respectively), and non-syphilitic compared to syphilitic serum (97.6% and 89.7%). Measurement to determine the ability of each test to agree with clinical diagnosis showed comparable results with serum of patients with primary, secondary, early latent, and tertiary syphilis. Least comparability occurred with late latent syphilis; the AFTA test showed 81.8 percent in agreement with clinical diagnosis, the FTA-ABS showed 99.1 percent agreement.

* * *

SENSITIVITY AND SPECIFICITY OF AUTOMATED SEROLOGIC TESTS FOR SYPHILIS. Thomas R. Cate, Georganne G. Tiemann, and Josephine Prince—Department of Medicine, Duke University Medical Center, Durham, North Carolina. AM J CLIN PATHOL (Baltimore) 55:735-739, June 1971.

Authors' abstract: Sensitivity and specificity of the automated reagin and automated Kolmer tests for diagnosing syphilis were compared with those of the Venereal Disease Research Laboratory (VDRL) slide test and the manual Kolmer test, and the feasibility of using the automated procedures for routine hospital serologic tests was evaluated. All sera submitted for routine serologic testing for syphilis in a 2-month period, 4,212 in number, were studied with automated reagin, automated Kolmer, and VDRL slide tests. Each serum reactive in one or more of these tests (227) and the preceding nonreactive serum (227) were studied with the manual Kolmer and fluorescent treponemal antibody absorption (FTA-ABS) tests. Reactivity in the FTA-ABS test was the criterion for diagnosing syphilis, and all cases were late or latent on review of the patients' hospital records. The automated reagin and VDRL tests were of comparable sensitivity (71% vs. 73%) and specificity (97% vs. 96%), whereas the automated Kolmer test appeared less satisfactory than the manual Kolmer test (sensitivities, 60% vs. 66%; specificities, 67% vs. 73%).

* * *

THE VALUE OF CONTEMPORARY SEROLOGICAL TESTS IN DIAGNOSIS OF ASYMPTOMATIC SOURCES OF INFECTION AND CONTACTS OF EARLY SYPHILIS (POLISH). W. Manikowska-Lesinska and K. Pucilo. PRZEGL DERMATOL (Warszawa) 58:157-162, March-April 1971.

English summary: “The authors performed serological examinations of 901 persons without clinical manifestations who were reported sources of infection of contacts of patients with early syphilis. Almost 2/3 of the seropositive cases showed consistently positive results of both cardiolipin tests, which, together with anamnesis, allowed the diagnosis. In the remaining 1/3 of the patients the diagnosis was

made on the basis of positive results of the FTA-ABS test.

"In the opinion of the authors, immediate performance of the FTA-ABS test for all persons suspected of contact with early syphilis, at least in centers of big cities, would be an optimal organizational solution in the present epidemiological situation."

* * *

THE ROLE OF SORBENT IN THE ABSORBED FLUORESCENT TREPONEMAL ANTIBODY (FTA-ABS) TEST. A. E. Wilkinson and C. C. Wiseman—Venereal Diseases Reference Laboratory (PHLS), The London Hospital, Ashfield Street, London E1, England. PROC R SOC MED (London) 64:422-425, April 1971.

Authors' summary and conclusions: The sorbent used in the FTA-ABS test to remove group-reactive anti-treponemal antibody has been shown to contain antigenic material from Reiter treponemes. While this may act by a true antigen-antibody reaction, nonspecific effects, due to high osmolarity of the sorbent, are thought to play an important part.

Sorbent does not necessarily remove all group antibody from syphilitic sera, especially when these are strongly reactive. The importance of the demonstration of the complete removal of group antibody from sera giving borderline or weakly reactive results in the FTA-ABS test is stressed.

An ultrasonicate of Reiter treponemes was found to be a more effective and more reliable reagent than sorbent. Unfortunately difficulties in the production of sonicate in sufficient quantities limit its use in practice. The ideal reagent should be one which will specifically remove all group-reactive antibody from sera; this would permit quantitation of results and so enhance the value of the FTA-ABS test.

* * *

A PRELIMINARY STUDY OF THE *Treponema pallidum* HAEMAGGLUTINATION TEST (TPHA). Sodsai Vejjajiva, Rattai Skulramrung, and Suphatra Suvanamalix—Department of Microbiology, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand. J MED ASSOC THAI (Bangkok) 54:256-259, April 1971.

Authors' summary: The passive haemagglutination test for the serodiagnosis of syphilis with an antigen derived from pathogenic *Treponema pallidum* has been evaluated. The method is simple and highly sensitive. The results agreed well with FTA-ABS test in 28 syphilitic patients. However, in 62 patients suspected to be cases of syphilis, 9.26 percent showed a positive result to the TPHA test but negative to the FTA-ABS. Whether those positive sera were truly syphilitic, or merely gave false positive results, is uncertain. The TPHA test in 18 sera from normal subjects was non-reactive. However, further studies of sera from patients with syphilis and those belonging to the biological false positive group, together with investigation into the reagents and techniques employed, have to be assessed before the significance of TPHA as a routine serodiagnostic test for syphilis can be accepted.

* * *

THE SIGNIFICANCE OF CARDIOLIPIN IMMUNOFLOURESCENCE (CLF). D. J. M. Wright and D. Doniach—Department of Venereology, Guy's Hospital, London SE1, England. PROC R SOC MED (London) 64:419-422, April 1971.

Authors previously described a new anti-cardiolipin antibody which may be detected by the indirect immunofluorescent technique on tissue substrates. This antibody was designated as cardiolipin F (CLF) (Wright et al, 1970). "The two types of cardiolipin antibodies found in syphilis behave differently in that the classical WR and VDRL reagins tend to persist into the chronic stages of the disease, while the CLF antibody is present mainly in the acute infectious phase. The maximal incidence and the highest titres of CLF were found in early active syphilis, especially in the secondary stage of the disease. The early latent cases gave similar titres since many of the patients had hidden chancres.

...When the class of immunoglobulin in CLF was examined it was found that, in primary syphilis, IgM antibodies were detected more often than IgG. . . . In secondary and early latent cases, cardiolipin F titres were roughly equal with both conjugates. It is also of interest that several cases of infectious relapse were first detected by using the CLF with anti-IgM conjugate." Authors conclude that the cardiolipin fluorescence test may be clinically useful in deciding if a latent syphilitic should be regarded as having early (infectious) or late latent (non-infectious) syphilis. The test can also be helpful in the diagnosis of early seronegative primary syphilis and infectious relapsing cases.

* * *

QUANTITATIVE DETERMINATION AND SEROLOGICAL ACTIVITY OF 19S-AND 7S-IMMUNOGLOBULINS IN SECONDARY SYPHILIS (GERMAN). E. Kuwert, H. J. Heitmann and K. Noll. Z IMMUNITAETS-FORSCH EXP KLIN IMMUNOL (Stuttgart) 141:303-316, April 1971.

English summary: "The concentrations of immunoglobulins M, G, and A were significantly increased in the sera of 20 patients with an hitherto untreated secondary syphilis as compared to a control group of 30 healthy subjects. The mean values of IgM, and IgG were approximately 50 percent higher than those of the controls, whereas the difference in IgA was only 25 percent. There was a linear correlation between *Treponema*-specific antibody titer (FTA-test) and increase of IgG. The de novo synthesis of IgG in syphilitic patients, therefore, can be—at least partly—interpreted as a specific reaction towards the causative agent. By fractionating (sucrose density centrifugation) the sera of 3 more patients before, during, and after penicillin therapy it could be demonstrated that cf. and precipitating lipid antibodies in the secondary stage of the disease occur in the 19S and 7S serum fractions, whereas *Treponema*-specific antibodies are mainly found in the 7S fraction. The significance of this type of experiments — using different *Treponema*- and tissue-specific antigens — for the elucidation of the pathogenesis of the disease is discussed."

* * *

NEONATAL CONGENITAL SYPHILIS. DIAGNOSIS BY THE ANTI IgM TREPONEMAL FLUORESCENCE TEST. Jacob Kipnis, Mario E. Camargo, Celeste Trava Netto, A. Walter Ferreira, and Dante B. Guarnieri—Departamento de Ortopedia da Faculdade de Medicina da U.S.P., Sao Paulo, Brazil. REV INST MED TROP SAO PAULO (Sao Paulo) 13:179-183, May-June 1971.

Authors' summary: In 20 cases of congenital syphilis, IgM treponemal antibodies were searched for, in infant serums, through the immunofluorescence absorption test (FTA-ABS) using anti IgM conjugates. The scope was to evaluate the test as a possible guide to the diagnosis of active infection and to the prescription of antisyphilitic therapy. Positive results were found in 13 cases, doubtful in 4 and negative in 3. Cardiolipin tests were positive in all, as well as anti IgG treponemal fluorescence tests. In 4 cases which showed positive IgM tests, negative or doubtful results were seen in samples obtained a few weeks later, after treatment. Possible causes of the failure of the anti IgM treponemal fluorescence test in 35 percent of our cases are discussed.

* * *

CLINICAL, IMMUNOCHEMICAL AND SEROLOGICAL STUDIES OF DEMENTIA PARALYTICA (GPI). H. Schmidt, E. Dein, E. Boje Rasmusen, and J. Clausen—Department of Dermatology and Venereology, Odense University Hospital, Odense, Denmark. ANTI ARCH ALLERGY APPL IMMUNOL (Basel) 40:851-860, 1971.

Authors' abstract: Sera and cerebrospinal fluids from 32 patients (25 males and 7 females) suffering from *dementia paralytica*, were assayed for seroreactivity by standard immunological tests, including the Wassermann reaction, Kahn's and Meinicke's reactions, as well as the *Treponema pallidum* immobilization test. The data obtained were compared to the albumin and IgG content of serum and spinal fluid, assayed by the quantitative radial immunodiffusion. The data obtained were also compared to erythrocyte sedimentation rate and the number of leucocytes in the blood and spinal fluid specimens. Compared to normal adults, no

change occurred in serum IgG and albumin content of patients with neurosyphilis. The albumin and IgG levels were, however, increased in the spinal fluid. This increase showed a statistical significant correlation to the total number of leucocytes in serum. The IgG level of the spinal fluid was not correlated to the seroreactions or the results of the TPI test of the spinal fluid. On the other hand, a mutual correlation was found between the results of the individual serotests of the spinal fluid. The results obtained were discussed on a basis of the literature available.

* * *

Therapy

CEPHALOSPORIN ANTIBIOTICS IN VENEREAL DISEASE. W. Christopher Duncan and John M. Knox—Department of Dermatology and Syphilology, Baylor College of Medicine, Houston, Texas 77025. *POSTGRAD MED J (London)* 47:Suppl:119-122, February 1971.

This report presents data from a study under way at the Houston Social Hygiene Clinic evaluating cephalexin as an alternative antibiotic for the treatment of syphilis. The study includes 24 patients with primary and secondary syphilis. Two treatment regimens were followed. In 18 patients treated with 250 mg cephalexin 4 times daily for 15 days, there were 9 failures—3 at 3 months post-treatment, 2 at 5 months, 1 each at 6 and 7 months, and 2 at 8 months. Three patients presented eruptions of secondary syphilis at follow-up. In all of the failures a decrease in titer occurred promptly and lesions healed in the usual time. Six patients have been treated with 500 mg q.i.d. for 15 days and have been followed for at least three months; at the time of this report the serological response appeared adequate. Five patients were known to be allergic to penicillin; however, none of these five noted any untoward effects from cephalexin. Authors suggest that the treatment failures at the lower dose could represent poor drug absorbers; or, another possible reason for the persistence of infection may be related to the phenomenon of decreased antibacterial activity observed when cephalexin is tested against a high inoculum of organisms.

Authors review the literature on the use of cephaloridine in the treatment of syphilis and briefly discuss the treatment of gonorrhoea with the two drugs.

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TREATMENT OF EARLY SYPHILIS AND VENEREAL LYMPHOGRANULOMATOSIS WITH DOXYCYCLINE (SPANISH). Hernan Hevia, Juan Honeyman, and Marcos De la Parra—Unidad de Dermatología, Departamento de Especialidades, Hospital J. J. Aguirre, Universidad de Chile, Santiago de Chile. *REV MED CHIL (Santiago)* 99:402-405, June 1971.

English summary: "Doxycycline 200 mg initially and then 100 mg daily for 9 days was administered to 21 individuals with early syphilis. Ten patients with venereal lymphogranulomatosis and 5 others affected by both diseases received 200 mg for 3 consecutive days and 100 mg/day during the following 12 days. Ultramicroscopic study of lesions became negative in the course of the first 72 hours of therapy. Most cases showed negative Kahn test earlier than six months after initiation of therapy. Results are rated as 'good' in all but one instance of mixed infection characterized by a slow disappearance of lesions. Side effects were not significant. However, Herxheimer reactions accompanied the treatment in one-third of the cases. A final word of recommendation for the use of this agent is given by the authors."

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GONORRHEA

Clinical

DISSEMINATED GONOCOCCAL INFECTION. King K. Holmes, George W. Counts, and Harry N. Beaty—Department of Medicine, U.S. Public Health Service Hospital, Seattle, Washington. ANN INTERN MED (Philadelphia) 74:979-993, June 1971.

Authors' abstract: The recent marked increase in incidence of gonorrhea prompted this analysis of the systemic manifestations of gonococcal infection. Of 42 patients with disseminated infection, 79 percent were women. Most had asymptomatic anogenital infections, and dissemination arose during pregnancy or menstruation in 71 percent. Arthritis occurred in 38 patients, in whom a characteristic clinical picture was seen. An initial "Bacteremic stage," with polyarthralgias, skin lesions, and positive blood cultures, was followed by a "septic joint stage," with positive synovial fluid cultures or joint destruction. Blood cultures were positive in 9 of 13 patients seen within 2 days of the onset of symptoms, and cell-wall-deficient gonococci were isolated from a "sterile" septic joint. These findings discount any role of cross-reactive antigens and antibodies in the pathogenesis of "sterile" gonococcal arthritis. Liver function abnormalities were detected in 14 patients, and myocarditis or pericarditis occurred in 10 patients. Meningitis occurred in two patients, and endocarditis led to death in one patient and to valve replacement in another.

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GONORRHEA IN WOMEN. Martin Hart—Center for Disease Control, Venereal Disease Research Laboratory, Atlanta, Georgia 30333. JAMA (Chicago) 216:1609-1611, June 7, 1971.

Author's abstract: Two hundred thirty-one female patients of private obstetricians and gynecologists were examined for gonorrhea, using cultural techniques. Specimens were taken from the cervix and rectum of all patients and cultured on Thayer-Martin (TM) selective medium. Six, or 2.6 percent, were found positive. Of these, all were in the 20- to 29-year age

group; only one had knowledge of being exposed to gonorrhea; three were pregnant. The frequently asymptomatic nature of gonorrhea in females, combined with a definable incidence of infection in this patient group, suggests that more frequent use of cultural methods employing TM medium would help control this rapidly increasing disease. Cultures are particularly recommended for women under 30 years who are single, pregnant, or manifest acute vaginitis.

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GONOCOCCAL VULVOVAGINITIS AND POSSIBLE PERITONITIS IN PREPUBERTAL GIRLS. Virgil F. Burry—Children's Mercy Hospital, 24th at Gillham Road, Kansas City, Missouri 64108. AM J DIS CHILD (Chicago) 121:536-537, June 1971.

Case histories are presented of four prepubertal girls, one 10-year-old and three 6-year-olds, who presented with signs and symptoms compatible with peritonitis. These four represent approximately 10 percent of the young girls seen at the Children's Mercy Hospital. Each child had fever, diffuse abdominal pain, rebound tenderness, and decreased bowel sounds. Vomiting or anorexia was present in all four. Rectal examination showed diffuse tenderness in every child. Laboratory results were supportive or compatible to peritonitis in all instances. In each case, the response to penicillin therapy was most dramatic. Author concludes that in view of the general increase in gonorrhea this condition may become more common in children in the future.

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Laboratory Diagnosis

CARBOHYDRATE FERMENTATION PATTERNS OF *Neisseria meningitidis* DETERMINED BY A MICROTITER METHOD. J. A. Davies, J. R. Mitzel, and W. E. Beam, Jr.—Naval Medical Field Research Laboratory, Camp Lejeune, North Carolina 28542. APPL MICROBIOL (Baltimore) 21:1072-1074, June 1971.

Authors' abstract: A carbohydrate fermentation technique has been developed and com-

pared to the standard fermentation test with cystine-trypticase-semisolid agar for the identification of *Neisseria meningitidis*. This new method utilizes Mueller-Hinton broth as a basal substrate and is performed with microtiter methods. By using Mueller-Hinton broth with and without the addition of antibiotics, the method can be adjusted to test the fermentation patterns of all of the *Neisseria* including *N. gonorrhoeae*.

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THE IMPORTANCE OF CULTURAL IDENTIFICATION OF *Neisseria gonorrhoeae* FOR THE DIAGNOSIS OF PROBLEMATIC CLINICAL CASES (GERMAN). Erika Friedrich and Sabine Zaumseil-Hautklinik der Martin-Luther-Universität Halle-Wittenberg, Ernst-Kromayer-Str. 5-8, 402 Halle (Saale), West Germany. DTSCH GESUNDHEITSW (Berlin) 26:401-404, February 25, 1971.

English summary: "The results of tests with gonococci cultures made in the years between 1967 and 1969 in cases of diseases of the urinary passage where the microscopy findings were not clear or negative, are made known. In 501 of 2117 examined patients gonorrhea could be diagnosed culturally. There was just a slight change in the proportion of the positive and negative culture findings. However, the number of men who were examined culturally, and also the number of men with positive findings increased considerably. The discussion deals with the importance of the cultural identification of *Neisseria gonorrhoeae*."

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Therapy

BICILLIN-6 THERAPY OF GONORRHEA IN MEN (RUSSIAN). V. E. Grigoriev, F. V. Potapney, A. A. Skuratovich, Yu. I. Grachev, and G. A. Voskresenskaya. VESTN DERMATOL VENEROL (Moskva) 45:74-77, January 1971.

English summary: "Treatment with bicillin-6 was given to 64 men with complicated and uncomplicated gonorrheal urethritis. The patients with uncomplicated acute and subacute

gonorrheal urethritis received a course dose of the drug of 2,400,000 Units (2 injections of 1,200,000 U. each). In total urethritis complicated by epididymitis and prostatitis the course dose was increased to 3,000,000-3,600,000 U. or more. The injections of the drug were given at 72-hour intervals each of 1,200,000 U. The patients with complicated gonorrheal urethritis were given additional therapy (autohemotherapy, pyrogenale, etc.). As a result of the treatment, gonococci disappeared from the urethral secretion in all 64 patients. The follow-up demonstrated stable etiological cure of 60 men. A relapse of the disease was observed in 4 men. In 6 out of 60 cured patients post-gonorrheal urethritis was observed. The treatment was well tolerated by the patients."

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GENTAMYCIN IN THERAPY OF VENEREAL DISEASE (ITALIAN). C. Pelfini and L. Bruni-Instituto de Clinica Dermatologic dell'Universita de Pavia, Italy. G ITAL CHEMIOTER (Milano) 16:341-344, Jan-Sep 1969.

English summary: "Gentamycin was employed during the second half of 1968 in the management of a series of out-patients at the Department of Clinical Dermatology of the University of Pavia. These included 18 forms of gonococci urethritis (8 of which were resistant to other antibiotics), 20 forms of bacterial (non-gonococci) urethritis and two forms of primary syphilis. Six of the 10 non-antibiotic-resistant gonococci urethritis cases responded to gentamycin, while the remaining 4 cases were subsequently resolved with penicillin. Six resistant cases (penicillin or tetracycline) gave a positive response to gentamycin. Prompt cure was obtained in 18 aspecific urethritis cases. Paraboloid assessment showed that gentamycin had no effect in the two cases of syphilis. It is submitted that gentamycin is only slightly effective against gonorrhea and useless against treponema. On the other hand, it attacks some gonococcus strains that are resistant to penicillin or tetracycline and is valuable in the management of aspecific bacterial urethritis.

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RIFADIN (RIFAMPICIN) IN THE TREATMENT OF GONORRHOEA IN UGANDA. A CONTROLLED TRIAL. O. P. Arya, S. K. Rao, and E. Nnochiri—Department of Preventive Medicine and Medical Microbiology, Makerere University, Kampala, Uganda. BR J VENER DIS (London) 47:184-187, June 1971.

Authors' summary: A trial of Rifadin (rifampicin) compared with penicillin in the treatment of 203 cases of gonorrhoea is described. Six capsules each of 150 mg. given in a single dose yielded a cure rate of 87.1 percent, compared to the 89.5 percent achieved by procaine penicillin 2.4 m.u. Rifadin appeared to be free from toxic effects in the dosage used. There was evidence that it did not mask concurrent syphilitic infection. In view of its potential in the treatment of tuberculosis, the authors advise that this drug should be used in gonorrhoea only as an alternative in special circumstances.

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TREATMENT OF GONORRHEA WITH SULMYCIN (GERMAN). D. Hantschke and J. Mauss—Akad. Oberrat, Derm. Klinik u. Poliklinik Essen der Ruhr-Universität, Bochum, Germany. Z HAUT GESCHLECHTSKR (Berlin) 45:407-412, May 15, 1970.

English summary: "Because of increasing insensitivity of *Neisseria gonorrhoeae* strains to penicillin and the rising rate of penicillin allergy, 23 patients with gonorrhoea were treated with Sulmycin (gentamycin). For three days, male patients received 2 x 80 mg, female patients 3 x 89 mg Sulmycin intramuscularly. After the second and third day of treatment, microscopical and cultural controls followed. Under this treatment 22 patients were cured. In only one female patient was *N. gonorrhoeae* found in the cervical smear after the first and second culture-control. This patient made tap-water irrigations of her vagina during treatment four to five times a day. She was cured with penicillin - G - Na. No side effects were noted after Sulmycin.

"If a concurrent syphilis is suspected, therapy with Sulmycin is possible immediately. The syphilis will not be masked, because *Treponema pallidum* is not affected at all by this antibiotic.

Because of its large antibiotic range Sulmycin is the remedy of choice for treatment of mixed infections with *N. gonorrhoeae* and penicillinase-producing microorganisms. The authors warn against subliminal Sulmycin therapy. Raising the daily dose or shortening the time of therapy is discussed.

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SENSITIVITY TO ANTIBIOTICS OF GONOCOCCAL STRAINS ISOLATED FROM SAILORS AT ROTTERDAM. A. Wols-Van der Wielen—Department of Dermatology of the Rotterdam Medical Faculty, Rotterdam, The Netherlands. BR J VENER DIS (London) 47:190-191, June 1971.

Author's summary: Gonococcal strains from cases of gonorrhoea in 201 seamen and 216 patients of other occupations in Rotterdam were investigated for sensitivity to penicillin and to four other antibiotics. For all the antibiotics tested, the proportion of less sensitive strains was significantly higher in the seamen. A major cause of the difference between infections in seamen and in the indigenous population was the factor of selection by previous unsuccessful treatment in the cases in seamen. When this factor was excluded by a comparison of untreated cases in seamen and in the indigenous group, there was still a significant preponderance of partially resistant organisms in the cases in seamen. Further analysis of untreated cases in seamen failed to reveal a significant difference between infections acquired in Europe and those caught overseas.

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APROPOS OF THE STUDY OF THE SENSITIVITY TO ANTIBIOTICS OF GONOCOCCI STRAINS ISOLATED AT YAOUNDE. EPIDEMIOLOGIC, BACTERIOLOGIC AND THERAPEUTIC CONSIDERATIONS (FRENCH). Jacques Millan and Maurice Huet—Travail de l'Institut Pasteur du Cameroun, B. P. 888, Yaounde, Cameroon, Africa. BULL SOC PATHOL EXOT (Paris) 63:642-652, November-December 1970.

English summary: "The author makes a survey of the gonorrhoea incidence at Yaounde

and studies the sensitivity of the *N. gonorrhoeae* strains isolated at Yaounde tested with the method of gel diffusion from discs, against 19 antibiotics and one sulfonamide. The results were as follows: 8 strains out of 18 show a decreased sensitivity to penicillin; 42 strains out of 49 are streptomycin-resistant; there does not exist any significant decrease of sensitivity to the other antibiotics generally used in gonorrhea treatment; 7 strains out of 14 have a low or no sensitivity to sulfamethoxypyridazine. The author draws practical conclusion as to the application of anti-gonorrhea treatments in the Public Health dispensaries in Cameroon.”

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MINOR VENEREAL AND RELATED DISEASES

INCIDENCE OF CANDIDA ALBICANS IN WOMEN USING ORAL CONTRACEPTIVES. H. Kalund Jensen, P. A. Hansen, and Jens Blom--Department of Gynaecology and Obstetrics, the Central Hospital, Naestved, Denmark. ACTA OBSTET GYNECOL SCAND (Lund) 49:293-296, 1970.

Authors' abstract: An attempt was made to evaluate, by means of culture investigations, the incidence of candida albicans in 276 healthy women of fertile age. The patients were divided into three groups as follows: Group P (80 subjects), users of oral contraceptives; groups NP (158 subjects) non-users; group AP (38 subjects), former users. Group P included 15 percent with candida albicans and 56 percent with erosion, as against 5 percent and 24 percent, respectively, in group NP. The difference in incidence of candida albicans and erosion between groups P and NP is significant at the 5 percent level. No significant difference was found between groups NP and AP. The incidence of candida albicans, trichomonas and erosion is discussed and compared with previous reports.

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THE EPIDEMIOLOGY OF TRICHOMONIASIS AND THE ROLE OF THIS INFECTION IN THE DEVELOPMENT OF CARCINOMA OF THE CERVIX. B. Bertini, and M. Hornstein--Central Laboratory of Endocrinology and Cytology, Kupat Holim Health Insurance Institution, Tel-Aviv, Israel. ACTA CYTOL (Baltimore) 14:325-332, May 1970.

Authors' summary: Epidemiologic and cytologic aspects of 1,450 cases of *T. vaginalis* infections and of 1,153 cases of non-parasitic inflammations were investigated. It was found that a significantly higher frequency of Tricho-

monas intestation exists among the western and young Israeli-born women as compared to those originating from eastern countries. This observation is of considerable interest in view of the higher standard living, higher educational backgrounds and better sanitary conditions prevailing in the former groups. These differences in the incidence of trichomoniasis could be related to the particularly strict observance on the part of eastern communities of religious laws and principles forbidding extra-marital sexual relations.

The cytopathologic findings showed a higher frequency of dysplasias and endocervical hyperplasias in the presence of trichomoniasis as well as a close association of this infection with benign lesions of the cervix. The regression of these cellular patterns upon treatment indicates a causal relationship between the cytologic abnormalities and trichomoniasis. No evidence for a higher incidence of malignancy of the cervix in patients with benign dysplastic lesions and with *T. vaginalis* infections was obtained.

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COMPARATIVE MICROSCOPY, CULTURE AND SEROLOGY STUDIES ON *Trichomonas vaginalis* (GERMAN). K. J. Beck, M. Saathoff, H. Merkl--Universitäts-Frauenklinik Bonn, Bonn, Germany. GEBURTSHILFE FRAUENHEILKDE (Stuttgart) 31:551-560, June 1971.

English summary: "A comparative study in 600 consecutive patients by wet-mount, culture and serology was done for *Trichomonas vaginalis* in women. Compared to our culture in the Asami-medium only, 70.7 percent of the existing infections were diagnosed by the unstained wet-mount preparation and only 63.8 percent of the infections were diagnosed in the

routine cytologic smear according to Papanicolaou.

"The serologic diagnosis of a *T. vaginalis* infection is more of scientific interest. The complement fixation reaction of Hennesen showed antibodies in approximately 75 percent of the infections. In some cases it was found that positive serology is not necessarily diagnostic of an existing infection since antibodies may be found for some time following the cure of a trichomonas vaginitis. The Asami-medium was also useful for the diagnosis of vaginal mycosis. The unstained fresh preparation and the Papanicolaou smear were insufficient for the diagnosis of fungi. In our unselected series 10.3 percent of the women were found to have *T. vaginalis* and 14 percent of the patients showed fungi."

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STRAINS OF *Trichomonas vaginalis* RESISTANT TO METRONIDAZOLE (RUSSIAN). L. M. Korik. VESTN DERMATOL VENEROL (Moskva) 45:77-80, January 1971.

English summary. "It was shown experimentally that strains of *Trichomonas vaginalis* isolated from patients treated with metronidazole were less sensitive than trichomonads originating from untreated patients. As a result of passages of trichomonad strains in media with gradually increasing concentrations of metronidazole strains were obtained with sensitivity reduced 2.5 to 2000-fold as compared to the original strains. Failures of metronidazole treatment in the majority of cases may be explained by poor sensitivity of trichomonads to this drug."

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STUDY OF THE TRICHOMONACIDAL PROPERTIES OF PYRITHIONE (SODIUM SALT OF 1-HYDROXY-2 (1,H)-PYRIDINETHIONE) (FRENCH). R. Cavier and J. Cenac—Laboratoire de Parasitologie, Faculte de Pharmacie, 4, avenue de L'Observatoire, F. 75-Paris-06, France. ANN PHARM FR (Paris) 29:211-214, March 1971.

English summary: "Pyrrithione, the sodium salt of 1-hydroxy-2 (1,H)-pyridinethione, which

is an antibacterial and antifungal compound, is also endowed with trichomonacidal properties demonstrated *in vitro* on pure cultures of *Trichomonas vaginalis*. The minimal concentration inhibiting the growth of the culture is 0.125 ug/ml; the minimal lethal concentration on a two days old culture is 1.0 ug/ml. This activity is, however, less effective *in vivo* on trichomonas implanted experimentally in Rat vagina since the best conditions (topical applications in a hydro-soluble excipient of a daily dose of 10 mg per animal during six days), the percentage of animals freed from parasites hardly attains 50 per 100."

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HERPES GENITALIS IN WOMEN ATTENDING PLANNED PARENTHOOD OF NEW YORK CITY. Wanda H. Wolinska and Myron R. Melamed—Memorial Hospital for Cancer and Allied Diseases, New York, New York 10021. ACTA CYTOL (Baltimore) 14:239-242, May 1970.

Authors' summary: During a 30 month interval, cytologic evidence of herpes genitalis was found in 37 women from a population of 43,318 who were attending various centers of Planned Parenthood of New York City (PPNYC). The overall rate of 0.09 percent for this disease was within the range reported from comparable centers elsewhere. Women using various forms of contraception had lower rates of herpes than did women who were using no contraceptive. The reason for this is not clear from this study but it does appear that the use of steroid and other contraceptives does not add to the risk of disease and may in some way minimize it.

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TRANSPORT OF HERPES SIMPLEX VIRUS IN STUART'S MEDIUM. P. Rodin, M. J. Hare, C. F. Barwell, and M. J. Withers—Departments of Venereology and Bacteriology, The London Hospital, London, England. BR J VENER DIS (London) 47:198-199, June 1971.

Authors' summary: Stuart's transport medium is compared with a plain swab and a virus transport medium for transporting speci-

mens from genital lesions for herpes virus culture. Stuart's medium proved satisfactory and can be used in cases in which the arrival of the specimen at the laboratory may be delayed. For general use it has the advantage over virus transport medium that it is also suitable for transporting bacteria.

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STUDY OF MYCOPLASMA IN UNIVERSITY STUDENTS WITH NON-GONOCOCCAL URETHRITIS. Suzanne Suelmann, Virginia Allen, S. L. Inhorn, and J. M. Benforado—State Laboratory of Hygiene, The University of Wisconsin Medical Center, 437 Henry Mall, Madison, Wisconsin 53706. HEALTH LAB SCI (New York) 8:62-66, April 1971.

A total of 650 specimens were cultured from 339 students (250 symptomatic, 89 control patients). Using a simple technique for the culture of T-strain mycoplasma from urethral swabs as well as urine specimens, it was possible to isolate both the T-strains and *M. hominis*.

The media used for T-strain mycoplasma consisted of commercial PPLO agar and broth, supplemented with 10 percent horse serum, 10 percent yeast extract, with the additional supplement, in final concentration, of 1000 units/ml penicillin, 0.05 percent urea, and 0.002 percent phenol red. While these were the media used in this current investigation, authors report that subsequent study has shown that 1 percent yeast extract concentration in broth is sufficient to support good growth, and frequently it is superior. The media for *M. hominis* were essentially the same, differing only in final pH, the omission of urea, and the addition of thalium acetate.

T-strain mycoplasma was isolated from 68 percent of the symptomatic males (132 of 193) and from 63 percent of the symptomatic females (36 of 57). The isolation rates among control patients were 25 percent and 35.8 percent respectively. *M. hominis* was isolated in 24 of the symptomatic males and 19 of the females. On occasion, both T-strain and *M. hominis* were isolated from the same individual.

Of the cultures from 122 individuals in whom cultures for *N. gonorrhoeae* were made, there

were 17 positives. Of these 17 patients, 7 males and 5 females were positive also for T-strain mycoplasma.

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Mycoplasma hominis AND POSTPARTUM FEBRILE COMPLICATIONS. Herbert J. Harwick, Robert H. Purcell, Bruce Iuppa, and F. Robert Fekety, Jr.—Research Service, Veterans Administration Center, Los Angeles, California 90073. OBSTET GYNECOL (New York) 37:765-768, May 1971.

Authors' abstract: The role played by large colony mycoplasmas was assessed in patients with nonspecific postpartum fever. The overall rate of fever after delivery was 7 percent. *Mycoplasma hominis* was recovered from the genital tract of 12 of 37 febrile patients, four of 37 postpartum controls and four of 25 third-trimester prepartum patients. Frequency of antibody response to *M. hominis* was also higher in febrile patients. Whereas *M. hominis* may play a role in the etiology of the nonspecific fever seen after delivery, frequency of antibody response to T-strain mycoplasmas was similar in both febrile and control groups.

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THE EFFECT OF ANTIBIOTIC THERAPY ON MYCOPLASMA IN THE FEMALE GENITAL TRACT. IN VITRO AND IN VIVO STUDIES ON THE SENSITIVITY OF *Mycoplasma hominis* AND *T-Mycoplasmas* TO TETRACYCLINES AND OTHER ANTIBIOTICS. Lars Westrom and Per-Anders Mardh—Department of Obstetrics and Gynaecology, University Hospital of Lund, Lund, Sweden. ACTA OBSTET GYNECOL SCAND (Lund) 50:25-31, 1971.

Authors' abstract: The susceptibility of *M. hominis* and *T-mycoplasmas* to different antibiotics *in vitro* has been studied. A clinical assessment of metacycline, lincomycin and chloramphenicol in genital infections in the female, with special reference to *M. hominis* and *T-mycoplasmas* is also presented. After treatment with metacycline or lincomycin, *M. hominis* was rarely isolated and in the majority

of cases such therapy was followed by a disappearance of symptoms and signs of infection and a rapid re-establishment of a vaginal flora dominated by Doderlein's bacillus. In patients who had received chloramphenicol, cultures yielded in most cases growth of *M. hominis*, and signs of infection persisted after treatment. The effect of treatment with metacycline, lincomycin or chloramphenicol on *M. hominis* correlated well with the susceptibility of this organism found *in vitro*. Cultures for *T. mycoplasmas* showed that these organisms could be recovered in about the same frequency before and after therapy.

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COMPLEMENT-FIXING ANTIBODIES TO BEDSONIA IN REITER'S SYNDROME, TRIC AGENT INFECTION, AND CONTROL GROUPS. Julius Schachter—The George Williams Hooper Foundation, University of California at San Francisco, California 94122. AM J OPHTHALMOL (Chicago) 71:857-860, April 1971.

Author's summary: Serum complement fixing (CF) antibody levels to bedsoniae were determined in patients with Reiter's syndrome, TRIC agent infection, and control populations. Of 84 men with Reiter's syndrome, 18 (21%) had significant CF levels. This rate was higher than the 15 percent (3/20) seen in men with TRIC agent urethritis, but lower than the 53 percent (20/38) found in men with TRIC oculogenital disease. Men with Reiter's syndrome, if CF positive, tended to have higher titers. CF reactor rates were approximately 3 percent for normals and in the Arthritis Clinic, and 7.8 percent in a venereal disease clinic. When patients with Reiter's syndrome were compared to age-sex matched controls with nongonococcal urethritis or gonorrhea the CF rates were: Reiter's syndrome, 18/77 (28.4%); gonorrhea, 14/154 (9.1%), $\chi^2 = 8.78$, $p < 0.01$; and for nongonococcal urethritis, 8/154 (5.2%), $\chi^2 = 16.99$, $p < 0.001$. It is concluded that CF reactors for bedsonia in Reiter's syndrome do not merely reflect TRIC agent infection in a sexually promiscuous group. It is possible that these titers may reflect a casual relationship in some patients with Reiter's syndrome, or an indication that these patients are hyperreactive to certain infectious insults.

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CEPHALEXIN MONOHYDRATE IN THE TREATMENT OF URINARY TRACT INFECTIONS AND URETHRITIS. Heonir Rocha and Francisco Peltier Queiroz—Department of Medicine, Faculty of Medicine, University of Bahia, Salvador (Bahia), Brazil. PRENSA MED MEX (Mexico City) 56-60, Sep-Oct. 1970.

Authors' summary: A total of 44 patients with urinary tract infections or urethritis were subjected to treatment with cephalixin monohydrate. Of the 30 with urinary tract infections (including acute, chronic recurrent, and chronic infection) 23 (76.6%) showed a satisfactory response. All 14 cases of urethritis (acute or chronic) responded well to cephalixin. The drug was very well tolerated. Mild, usually transitory, gastro-intestinal complaints were recorded in six patients (nausea, vomiting, diarrhea), but in no instance did therapy have to be discontinued. Laboratory toxicity studies referable to the hematopoietic system liver, and kidneys showed no consistent or significant alternations.

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MENINGOCOCCI IN VAGINITIS. James E. Gregory and Ellen Abramson—2600 N. Lawrence Street, Philadelphia, Pennsylvania 19133. AM J DIS CHILD (Chicago) 121:423, May 1971.

The presence of *Neisseria meningitidis* in the vagina is a rare occurrence and has not been well documented. The organism was recovered in pure culture from a 5-year-old patient with laboratory techniques that would have revealed aerobic or anaerobic pathogens that could have been associated with vaginitis had they existed. *N. meningitidis* was not recovered from either the throat or the nasopharynx of the patient. The infection was, essentially, self-limited, since the symptoms subsided without specific therapy.

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TREATMENT OF EPIDIDYMITIS. Joseph E. Davis—Department of Urology, New York Medical College, New York, New York 10029. MOD TREAT (New York) 7:1036-1043, September 1970.

Author's summary: (1) Epididymitis is the most common intrascrotal inflammatory process. (2) Epididymitis, particularly in children, should be differentiated from other important conditions requiring surgery, such as tumors of the testicle, torsion of the spermatic cord, or appendages of the testis. (3) Acute, nonspecific epididymitis usually will respond within several days to treatment with broad-spectrum antibiotics, bed rest, sexual abstinence and scrotal support. In some instances, it may progress to a chronic state which may require surgery. (4) Prophylactic vasectomy may reduce the incidence of epididymitis in patients who require urethral instrumentation and prostatectomy. (5) Tuberculous epididymitis is a reflection of tuberculosis in other parts of the body and usually responds to a prolonged (2-3 years) period of triple-drug therapy including streptomycin, PAS and isoniazid. (6) Epididymitis is often a reflection of disease in other portions of the urinary tract. Following the acute disease period, careful investigation of the entire genitourinary tract is recommended.

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BEJEL OR NON-VENERAL ENDEMIC SYPHILIS. M. Wajdi Kanan and Ezzat Kandil—P. O. Box 6050, Hawalli, Kuwait, Arabia. BR J DERMATOL (London) 84:461-464, May 1971.

Authors' summary: The case of a negroid man from Trucial Oman on the Arabian Gulf with vitiligoid bejel and several juxta-articular nodules is reported. The clinical picture and the histopathological features have been described. The failure to find the treponema in the smears and sections has been attributed to the late phase of presentation and previous therapy with penicillin. It is concluded that pintid bejel, pintid yaws and pinta can be differentiated only on a geographical basis.

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RESEARCH AND EVALUATION

TRANSFER OF GONOCOCCAL URETHRITIS FROM MAN TO CHIMPANZEE. AN ANIMAL MODEL FOR GONORRHEA. Charles T. Lucas, Francis Chandler, Jr., John E. Martin, Jr., and John D. Schmale—Veneral Disease Research Laboratory, Center for Disease Control, Atlanta, Georgia 303033. JAMA (Chicago) 216:1612-1614, June 7, 1971.

Authors' abstract: Urethral exudate from human males with gonococcal urethritis was transferred to the urethras of three male chimpanzees. The chimpanzees developed gonococcal urethritis, as demonstrated by the presence of a purulent urethral exudate containing gram-negative intracellular diplococci and the recovery of *Neisseria gonorrhoeae* on bacteriological culture media. The gonococcal urethritis was then transferred from chimpanzee to chimpanzee. One chimpanzee developed gonococcal conjunctivitis, presumably by auto-inoculation. All animals developed complement-fixing antibodies to *N. gonorrhoeae* in their sera. It appears, therefore, that an animal model of gonococcal urethritis has been established.

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In vitro STUDIES ON THE MECHANISM OF PENICILLIN AND AMPICILLIN DRUG REACTIONS. Z. H. Haddad and J. L. Korotzer—Pediatric Allergy and Immunology Training and Research Program, Los Angeles County—University of Southern California Medical Center, Los Angeles, California 90033. INT ARCH ALLERGY APPL IMMUNOL (Basel) 41:72-78, 1971.

Authors' summary: An *In vitro* method is described involving rat mast cells, serum from patients with suspected allergic reactions to penicillin or ampicillin and the respective antigen or anti-IgE in a controlled set of experi-

ments. The antigen or anti-IgE in presence of hypersensitive patients' sera elicited specific degranulation of the mast cells while the control (newborn serum or anti-IgG, A and M) failed to elicit any degranulation above that of background (rat mast cells plus suspending medium).

Our findings indicate that immediate hypersensitivity reactions to penicillin could be detected using this system and that these reactions are IgE mediated. They also indicate that the drug rash observed with ampicillin is not mediated by IgE.

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THE USEFULNESS OF IMMEDIATE SKIN TESTS TO HAPTENES DERIVED FROM PENICILLIN. A STUDY IN PATIENTS WITH A HISTORY OF PREVIOUS ADVERSE REACTIONS TO PENICILLIN. Michael J. Fellner, Abraham I. Weidman, Maria V. Klaus, and Rudolf L. Baer—Department of Dermatology, New York University School of Medicine, 550 First Avenue, New York 10016. ARCH DERMATOL (Chicago) 103:371-374, April 1971.

Authors' abstract: Twenty-nine patients with histories of allergy to penicillin require therapy with penicillin for severe infections. Three had had anaphylaxis; 12, exanthems late in onset; 8, urticaria; and nine had a variety of other cutaneous manifestations. One had a history of eosinophilia following penicillin therapy. All 29 had negative immediate skin tests; none developed immediate urticarial adverse reactions following reinstitution of penicillin therapy. However, five developed generalized maculopapular eruptions within 24 hours to 21 days after initiation of therapy. Indications for treatment with penicillins were subacute bacterial endocarditis (five), septicemia (two), pneumonia (two), rheumatic heart disease

(three), and a variety of other infectious diseases including syphilis, osteomyelitis, and gas gangrene. The results indicate that a history of allergy to penicillin is not as reliable as skin testing with haptens derived from penicillin to predict whether an immediate adverse effect is likely to ensue.

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SPECIFIC HYPOSENSITIZATION IN ALLERGIC SYNDROMES CAUSED BY DRUGS (ITALIAN). E. Errigo-Instituto de Patologia Speciale Medica, Metodologia Clinica (1), Universita di Roma, Italy. FOLIA ALLERGOL (Rome) 17:282-294, May-June 1970.

In this general review of the literature on hyposensitization in allergic syndromes is included a paragraph (complete with table) on the gradual adaptation to penicillin by starting with one unit of penicillin, at first every half hour and then every hour, subcutaneously then intramuscularly, increasing the dosage with each injection until therapeutic levels are obtained and even exceeded (on the 4th day 50 million units were given). Authors state this technique may be used also with other drugs, including streptomycin and isoniazid; however, this technique carries considerable risk and therefore should be used only in a hospital environment.

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ATYPICAL FLUORESCENCE IN THE FLUORESCENT TREPONEMAN-ANTIBODY-ABSORPTION (FTA-ABS) TEST RELATED TO DEOXYRIBONUCLEIC ACID (DNA) ANTIBODIES. Stephen J. Kraus, John R. Haserick, Leslie C. Logan, and Janice C. Bullard-Venereal Disease Research Laboratory, Center for Disease Control, Atlanta, Georgia 30333. J IMMUNOL (Baltimore) 106:1665-1669, June 1971.

Authors' abstract: Two distinct patterns of fluorescent treponemal-antibody-absorption (FTA-ABS) test fluorescence have been observed in sera from certain presumably nonsyphilitic patients with lupus erythematosus (LE); the entire *Treponema pallidum* antigen fluoresces

(homogeneous pattern), or intermittent beads of fluorescence are present along the length of the treponeme (beaded pattern). In LE sera, the factor responsible for the homogeneous pattern was an IgG antibody occurring in titers up to 1:1280. Antibodies that produced the beaded pattern were present in similar titers, but they were distributed among immunoglobulin classes IgG, IgA and IgM. The occurrence of beaded FTA-ABS fluorescence was statistically associated with the presence of anti-nucleoprotein, anti-DNA and LE cell factors. The reaction that results in beaded FTA-ABS fluorescence was inhibited by incubating sera with DNA or nucleoprotein or by treating the *T. pallidum* antigen with DNase. Anti-DNA antibody therefore appears to be responsible for the beaded FTA-ABS fluorescence reactions with sera from certain LE patients.

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CELL-MEDIATED IMMUNITY AND LYMPHOCYTE TRANSFORMATION IN SYPHILIS. G. M. Levene, D. J. M. Wright, and J. L. Turk - Institute of Dermatology, St. John's Hospital for Diseases of the Skin, London WC2, England. PROC R SOC MED (London) 64:426-428, April 1971.

"In certain chronic infectious diseases in which there is widespread dissemination of the tests gives evidence of defective cell-mediated immunity (CMI). ...It was therefore thought of interest to investigate CMI in patients with congenital and secondary syphilis. Information regarding CMI can be obtained by consideration of the histological appearance of lymphoid tissue, the results of skin tests and the results of lymphocyte transformation experiments in vitro using phytohemagglutinin (PHA) and specific antigens as agents to induce transformation."

The histological appearances of spleens of 37 infants who died from congenital syphilis were reviewed. It was shown that such infants had a relative depletion of lymphocytes around the central arterioles of the spleen. Examination of enlarged inguinal lymph nodes from 20 patients with untreated secondary syphilis showed that these patients had some depletion of lymphocytes in the paracortical areas, and their peripheral blood lymphocytes showed an impaired

response to PHA in vitro apparently caused by a plasma factor. The patients also responded poorly or not at all to specific skin tests.

"These findings are consistent with the view that there is impaired cell-mediated immunity in congenital and secondary syphilis and that this impairment may be related to the widespread dissemination of the infective organism in the early stages of the disease."

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CRYOGLOBULIN AND RHEUMATOID FACTOR DURING PRIMARY AND SECONDARY SYPHILIS (FRENCH). H. Perrot, J. Thivolet, and G. Fradin—Service de Dermatologie, Hopital Antiquaille, rue de l'Antiquaille, F-69-Lyon, France. PRESSE MED (Paris) 7:1059-1060, May 8, 1971.

This study included 31 patients (21 males, 10 females) with recent syphilis (10 primary, 21 secondary). Serologic tests used included hemolysis, Kahn, VDRL, FTA and, in 27 patients, the TPI. Rheumatoid factor was determined by the latex test and the Waaler-Rose test. Serum cryoglobulin was investigated by the method of Mustakallio. In all cases paper electrophoresis was performed. In primary syphilis the FTA was always positive; the other tests showed varying degrees of reactivity or non-reactivity. In secondary syphilis the classic serology was always reactive; TPI exceeded 50 percent nineteen times; FTA was always positive. Cryoglobulinemia was found in eight cases, the rheumatoid factor in three instances; one patient had both. Immunological study of the cryoglobulin showed it to be composed of IgM and IgG. In the search for the rheumatoid factor only the latex test was positive (3 times). These data are briefly discussed.

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ULTRASTRUCTURE OF *Treponema pallidum* NICHOLS FOLLOWING LYSIS BY PHYSICAL AND CHEMICAL METHODS. I. ENVELOPE, WALL, MEMBRANE AND FIBRILS. Sally Jackson and S. H. Black—Departments of Dermatology and Microbiology, Baylor College of Medicine, Houston, Texas 77025. ARCH MIKROBIOL (Berlin) 76:308-324, 1971.

Authors' summary: 1. Normal cells of the Nichols non-pathogenic strain of *Treponema*

pallidum were disrupted by one or a combination of physical and chemical procedures. Cells and cellular fragments were then observed in the electron microscope by means of three techniques: negative staining, thin sectioning, and freeze-etching. Changes in typical morphology were noted and individual organelles were isolated for detailed structural analysis.

2. The cell envelope, a triple-layered structure, was sensitive to trypsin, sodium deoxycholate, sodium lauryl sulfate, diethyl ether, hyaluronidase and a combination of lysozyme and rapid freeze-thawing. The envelope contained polygonal subunits that consisted of at least three components.

3. The cover of the protoplasmic cylinder was composed of two unit membranes interpreted to be the cell wall and cell membrane. The cell wall, which retained its spiral shape after removal of the cell envelope, was sensitive to lysozyme. The cell membrane was the site of attachment of the axial filaments.

4. A band of parallel fibrils, attached to the innermost layer of the cell membrane, wrapped around the protoplasmic cylinder in a spiral fashion. The fibrils, sensitive to trypsin, were released from the cell membrane by sodium lauryl sulfate.

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A NOTE ON CONGENITAL ABNORMALITIES OF THE PENIS. INCIDENCE AND RELATIONSHIP TO URETHRITIS. A. I. Morrison—Special Treatment Center, Queens Road, Barnsley, Yorks, England. BR J VENER DIS (London) 47:182-183, June 1971.

Author's summary: One hundred sixty-four cases of minor congenital abnormality of the penis were found among 2,407 men attending a venereal diseases clinic, an incidence of 6.8 percent. Meatal hypospadias was the most frequent finding. The incidence of all types of hypospadias in 1,129 cases of gonococcal and nongonococcal urethritis was 8.2 percent; it was 4.1 percent in 1,745 cases without urethritis. Conversely, 56.4 percent of cases of hypospadias were seen in association with urethral infections, whereas 43.6 percent were associated with other conditions. These findings lend indirect support

to the contention that hypospadias lessens the minor protection against infection afforded by the normal fossa navicularis.

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VIRAL CARCINOGENESIS IN VENEREALLY SUSCEPTIBLE ORGANS. Abraham Ravic—1135-103rd. Street, Miami Beach, Florida 33154. *CANCER (Philadelphia)* 27:1493-1496, June 1971.

Author's abstract: Recent findings of viruses in human smegma and semen, and in cancers of the prostate, cervix, and bladder, tend to confirm the author's original concept of a venereally transmitted virus in such cancers. Through a unique demographic opportunity in Brooklyn, a survey of Caucasian middle class private patients from 1930-41, showed a 1.7 percent incidence of prostate cancer in the more or less sexually segregated Jews vs. 20 percent among the largely uncircumcised non-Jews. A later study also showed a lower incidence of bladder and rectal cancers in Jews. Living conditions and hygienic facilities were similar. The involvement of the prostate was the keystone of the concept, since this internal organ is commonly accessible only to ascending venereal infections. Cancers of all organs generally susceptible to VD showed lower incidences in Jews. Their practice of complete circumcision usually protects them from genital cancers, unless they practice sexual promiscuity and acquire venereal infections.

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TECHNIQUES OF DEMONSTRATION OF IgM TYPE ANTIBODIES IN CONGENITAL INFECTIONS (FRENCH). G. Dropsy, J. Carquin and J.-C. Croix—Laboratoire Central de Microbiologie, C.H.U. de Reims, Pathologie perinatale 51, rue Cognacq-Jay, 51-Reims, France. *ANN BIOL CLIN (Paris)* 29:67-73, 1971.

English summary: "The authors present a series of techniques which they use for the diagnosis and detection of four major congenital infections: toxoplasmosis, rubella, cytomegalic inclusion disease, and syphilis. These techniques were chosen or modified in order to

dispose of a series of specific and reproducible examinations using easily available reagents which may be kept for a long time. For most of them, the use of indirect immunofluorescence permits them to recognize and titrate specific antibodies of IgM type, the biological factor essential for the diagnosis of these congenital disorders."

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PUBLIC HEALTH METHODS

EPIDEMIOLOGY OF 25,294 REPORTED GONORRHEA CASES. G. Reze Najem and Thomas N. Lynn, Jr. - Department of Community Health, University of Oklahoma Medical Center, Norman, Oklahoma 73069.

Authors' summary: The records of 25,294 reported gonorrhea cases in Oklahoma from 1965 to 1969 were reviewed. The secular trend of the cases increased from 1965 to 1969. The overall mean annual rate of reported gonorrhea cases was 202.2 per 100,000 population during the period of this study. The geographical distribution indicated that the median rate of the 77 counties in Oklahoma was 35.7 cases per 100,000 population in 1969, with high variability in the rates ranging from 0 to 426.5 among the counties. A majority of these cases were from urban areas in this study. The rate of 1687.1 cases per 100,000 population among Negroes was remarkably higher than for other races. There were three times more male cases than female. The age distribution of the cases was from under one to over 85 years of age, with the peak in the age group 20-24 years. There was considerable shift toward the younger age group of under 24 years. The largest increase in the reported gonorrhea was in the age group 15-19 in Oklahoma from 1965-1969. The relative lack of proper specific preventive measures and education in matters of sexual behavior and health among the most vulnerable members of society, namely the young people. Low socio-economic groups and asymptomatic females contribute most to the increasing number of gonorrhea cases in Oklahoma in this study. By and large, there is an urgent need for development of satisfactory mass prevention and control measures.

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IMPROVED TRACING OF CONTACTS OF HETEROSEXUAL MEN WITH GONORRHOEA. RELATIONSHIP OF ALTERED FEMALE TO MALE RATIOS. E. M. C. Dunlop, Amy M. Lamb, and Dorothy M. King-Whitechapel Clinic, The London Hospital, London, England. BR J VENER DIS (London) 47:192-195, June 1971.

Authors' summary: Since 1964 contact-tracers have been used at the Whitechapel Clinic to interview all men suffering from gonorrhea. In 1960 only twelve of the female sexual contacts of 100 men suffering from gonorrhea attended for examination but in 1969, in a similar series, 54 women attended.

In 1960, a total of 2,110 cases of gonorrhea was diagnosed compared with 1,693 in 1969, a decline of 20 percent. Cases in men had decreased by 30 percent from 1,677 to 1,171, but cases in women had increased by 21 percent from 433 to 522. The ratio of infected women to men was 1:3.9 in 1960 and 1:22 in 1969. In contrast, reported cases of gonorrhea in England and Wales increased by 33 percent between 1960 and 1968, for women by 73 percent, and for men by 23 percent.

More effective contact tracing is not the only factor in the changing ratio of infected women to men. The relative increase in the number of women is also observed in the total of new cases excluding gonorrhea. In 1969, only 14 percent of heterosexual men suffering from gonorrhea admitted to having acquired the infection from prostitutes whom they paid compared with 31 percent in 1960; but 49 percent had acquired gonorrhea from known 'girl-friends' in 1969 compared with 27 percent in 1960. An increasing number of infections is now acquired

from 'girl-friends' and such girls are more accessible to contact tracing than are prostitutes. It is likely that women will continue to provide a growing proportion of the patients attending clinics; even in the absence of a general increase in the numbers of persons attending the clinics, this increasing proportion of women will place a growing burden on the staffs of clinics and laboratories. Staffing should be reviewed with this in mind.

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ANALYSIS OF HOSPITAL ADMISSION RATES OF PATIENTS WITH SYPHILIS OF THE CENTRAL NERVOUS SYSTEM IN POLAND BEFORE AND AFTER WORLD WAR II. Anatol Dowzenko and Janusz J. Zielinski—Department of Neurology, Institute of Psychoneurology, Pruszkow, Poland. POL MED J (Warszawa) 10:539-546, 1971.

Authors' abstract: In an analysis of the secondary statistical materials from official sources and data obtained from 9 neurological and 9 psychiatric departments it was attempted to gain an insight into the dynamics of the admission rates of patients with syphilis of the nervous system to hospitals and departments of medical academies in Poland before and after World War II. A considerable gradual decrease of admissions has been observed, especially since 1960. A similar decrease was observed in venereal disease outpatient clinics. Some data suggest, however, a declining interest of the departments of Medical Academies in the problems of syphilis of the nervous system. The decrease of the admission rates of *Lues nervosa* patients to the hospitals coincides on the one hand with an evident decrease of admissions of new cases and with slow dying out of "old" cases on the other hand. In the light of the high incidence of syphilis the analysis of these data shows that the rate of detection of new cases of early syphilis is considerable and the efficacy of this treatment is high.

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Behavioral Studies

PSYCHOLOGICAL ASPECTS IN VENERE- OLOGY (CZECHOSLOVAKIAN). F. Novotny. CESK DERMATOL (Praha) 46:77-82, April 1971.

English summary: "Psychology in venereology has a curative-preventative and sociological significance. The changes of the physical state of venereological patients are described in the paper. The kinds of psychological approach by the doctor and of the nurse to patient and concern with the preservation of anonymity and family and social relations are elaborated. The possibilities of a psychological approach to venereophobic individuals and with undisciplined patients are mentioned."

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