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Vol. 5. No. 2.

MAY, 1952

205896
"CURR. LIST MED. LIT."
JOURNAL OF
CLINICAL PATHOLOGY

EDITED FOR
THE ASSOCIATION OF CLINICAL PATHOLOGISTS

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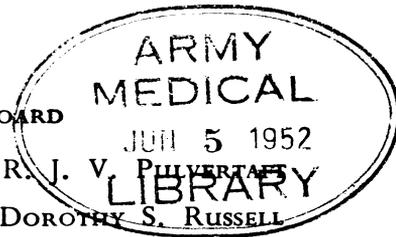
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LONDON

BRITISH MEDICAL ASSOCIATION

TAVISTOCK SQUARE, W.C.1

YEARLY SUBSCRIPTION (4 NUMBERS) £2 2s.

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SINGLE NUMBERS 12s. 6d.

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ABSTRACTS

This section of the JOURNAL is published in collaboration with the two abstracting journals, Abstracts of World Medicine, and Abstracts of World Surgery, Obstetrics and Gynaecology, published by the British Medical Association. In this JOURNAL some of the more important articles on subjects of interest to clinical pathologists are selected for abstract, and these are classified into four sections: bacteriology; biochemistry; haematology; and morbid anatomy and histology.

BACTERIOLOGY

Nocardamin, a New Antibiotic from a Species of *Nocardia*. STOLL, A., BRACK, A., and RENZ, J. (1951). *Schweiz. Z. allg. Path.*, **14**, 225.

From the culture fluid of a *Nocardia* sp. the authors isolated an antibiotic which appears to be quite distinct from those obtained from other *Nocardia* spp. It has been isolated in crystalline form and its chemical constitution is considered to be $C_9H_{14}O_3N_2$. It is inactive against Gram-positive and Gram-negative cocci as well as against Gram-negative bacilli, even in a dilution of 1 in 1,000. It is, however, actively bacteriostatic against strains of human, bovine, and avian tubercle bacilli, as well as against *Mycobacterium phlei* and *Mycobacterium smegmatis*, *in vitro* in dilutions varying from 1 in 1,600 to 1 in 64,000.

G. M. Findlay.

Pertussis: Clinical Comparison of the Newer Antibiotics. BOOHER, C. E., FARRELL, J. B., and WEST, E. J. (1951). *J. Pediat.*, **38**, 411.

Streptomycin (28 cases) was found to be of little use in the treatment of pertussis.

Discussing their results, the authors point out that there is little difference in the efficacy of chloramphenicol, aureomycin, and terramycin, but state that aureomycin has the disadvantage of producing gastric disturbance with accompanying loss of weight. It is not thought that any specific for pertussis has at present been discovered.

Streptomycin Resistance in Strains of Tubercle Bacilli coming from Different Pulmonary Lesions in the Same Patient. CANETTI, G., and SAENZ, A. (1951). *Ann. Inst. Pasteur*, **80**, 238.

A series of lungs from 24 persons with pulmonary tuberculosis who had died after receiving streptomycin were examined to determine the sensitivity of the tubercle bacilli

isolated from different lesions. In 8 cases the strains isolated from the different lesions of the same patient had the same degree of sensitivity; in 5 cases tubercle bacilli with slightly different degrees of sensitivity were isolated, but the differences were not statistically significant. In 11 patients tubercle bacilli of very different sensitivity were isolated, and in 7 cases some quite sensitive bacilli were isolated and from different lesions bacilli which were not inactivated by 1,000 g. per ml. In 4 patients some bacilli were feebly resistant and others highly resistant. The best chances of isolating bacilli of different sensitivity are in patients who have not been treated for long periods.

The frequency and the degree of resistance of the strains of *Mycobacterium tuberculosis* isolated are directly related to the content of the lesions in bacilli. Thus, lesions yielding less than 100 colonies gave rise to 48.4% of sensitive strains, 25.8% of moderately resistant strains, and 25.8% of highly resistant strains. If the lesions yielded more than 1,000 colonies the figures were 10.9% of sensitive strains, 21.7% of moderately resistant strains, and 67.4% of highly resistant strains. Lesions with soft casein yielded resistant strains more frequently than did lesions with solid casein. This difference is usually due to the fact that soft casein lesions contain more tubercle bacilli, but possibly the nature of the lesions plays some part apart from the number of bacilli present.

G. M. Findlay.

Chloromycetin in the Treatment of Bacillary Urinary Infections. WILSON, W. M., BARNES, R. W., and BERGMAN, R. T. (1951). *Urol. cutan. Rev.*, **55**, 206.

The authors selected 21 cases of urinary infection to test the effect of chloramphenicol. The cases were chosen according to the following criteria: (1) Gram-negative bacillary infection; (2) previous unsuccessful treatment with another chemotherapeutic agent; (3) no demonstrable organ lesion.

The routine course given to the patients was: 750 mg. four times a day for 3 days, then 250 mg. (1 capsule) four times daily for 6 days. Of the 21 cases 19 cleared up after the first course of chloramphenicol; in 9 cases infection recurred after cessation of the drug; 5 of these patients were found to have some definite pathology accounting for this persistent infection.

The findings suggest that *Proteus* and paracolon bacillus infections are not as sensitive to chloramphenicol as are other Gram-negative organisms.

F. B. Cockett.

Culture of Tubercle Bacilli. Comparison between Cultures of Laryngeal Swabs with Cultures of Gastric Washings. GILJE, A. (1951). *Nord. Med.*, **45**, 129.

For his comparison of cultures of tubercle bacilli the author took laryngeal swabs (20 to 30 at a time) and gastric washings from the same patient. The swabs were examined in the laboratory of the sanatorium and the washings were sent, after neutralization, to Oslo, where 5.5% of 618 gastric washings and 14.8% of 863 laryngeal swabs from the same patients were found to be positive. Of 53 patients who were either sputum-negative (40) or had no sputum (13), positive cultures were obtained from gastric washings alone in 2, from laryngeal swabs alone in 35, and from both washings and swabs in 12. Thus, the laryngeal swabs were positive in 51 and the gastric washings in 14; if the gastric washings had been tested alone, there would have been 35 false negative results, and if the laryngeal swabs had been used alone, only 2 false negatives among the 53 known positives.

Margaret Agerholm.

Identification of *Staphylococcus pyogenes* by the Phosphatase Reaction. BARBER, M., and KUPER, S. W. A. (1951). *J. Path. Bact.*, **63**, 65.

The phosphatase reaction was used to detect *Staphylococcus pyogenes* in routine cultures. Nasal swabs taken from 100 persons were plated on nutrient agar containing phenolphthalein diphosphoric acid in a concentration of 0.01 g. per 100 ml., and after incubation at 37° C. for 18 hours the presence of free phenolphthalein in the colonies, indicating phosphatase activity, was detected by exposing the plates to ammonia vapour. Colonies showing the reaction were found on 42 plates; the appearance observed is illustrated in coloured photographs. Phosphatase-negative and phosphatase-positive colon-

ies were inoculated separately into tubes of broth and tested for coagulase production after incubation at 37° C. for from 6 to 24 hours. No coagulase activity was found in colonies taken from the 58 phosphatase-negative plates. Of 85 phosphatase-positive colonies 84 were coagulase-positive, and of 75 colonies giving negative or doubtful results in the phosphatase tests 70 were coagulase-negative. The phosphatase reaction could also be produced in medium containing 5% horse blood, although the pink colour was less marked, and was not affected by sodium chloride in a concentration of 5%.

The results show that colonies which give a negative result in the phosphatase test may be inferred to be coagulase-negative, and that a positive phosphatase reaction is a good indication of coagulase production if the technique is followed carefully.

D. J. Bauer.

BIOCHEMISTRY

Significance of Raised Serum-enzyme Levels in Perforated Peptic Ulcer. WAPSHAW, H. (1951). *Brit. med. J.*, **1**, 995.

The serum amylase level is sometimes raised in patients with perforated peptic ulcer. Investigating the cause in dogs, Pemberton *et al.* (*Proc. Mayo Clin.*, 1950, **25**, 5) found that the serum amylase level was slightly raised when experimental perforation occurred 1 to 2 hours after a meal, but was not raised when 3 to 4 hours had elapsed between the meal and perforation. Examination of the escaped fluid in the peritoneal cavity in the two groups showed that the amylase and lipase content in the first group was six times that of the second.

The author studied the serum amylase and lipase levels in 30 patients with perforated peptic ulcer (29 pyloro-duodenal, 2 gastric, 1 anastomotic), and found the serum amylase level to be raised (above 200 units per ml.) in 6, the highest levels occurring when the perforations had been present for a long time (15 and 24 hours) without repair. The serum amylase level returned to normal 24 hours after repair except in one case. The serum lipase level was raised in 4 patients. There was a wide variation in the amylase content of the fluid that had escaped into the peritoneal cavity (from *nil* to 32,000 units) which did not correspond with the serum amylase level, in contrast to the findings of Pemberton *et al.* in dogs. The peritoneal fluid lipase content varied from 0.1 to 14.3 ml. of N/20 NaOH. There was no correlation between the serum amylase level and the time which had elapsed between eating

and perforation; the highest concentrations were found in patients who had not eaten for several hours before perforation occurred.

The reason for the raised serum amylase and lipase levels following perforation in man is not understood. Two possibilities are suggested: (1) peritoneal absorption of fluid containing enzymes that had escaped from the alimentary tract; and (2) pancreatitis caused by the irritating nature of the escaped fluid. Inactivation of the enzymes by acid gastric juice and the stimulus to secretion of the previous meal are two factors which may confuse the chemical investigation.

Charles P. Nicholas.

The Interrelationship of Blood and Urine Diastase during Transient Acute Pancreatitis. DANKNER, A., and HEIFETZ, C. J. (1951). *Gastroenterology*, **18**, 207.

The quantity of diastase and creatinine present in the blood and excreted in the urine was measured at intervals of 1 to 2 hours during 13 attacks of transient acute pancreatitis occurring in 12 patients. The urinary excretion of diastase paralleled the blood diastase values throughout the attack. During a period of normal renal function high initial blood diastase values were followed in less than 2 hours by increased urinary excretion of diastase. Examination of the figures for creatinine concentration showed that acute pancreatitis, even in the absence of clinical shock, frequently impaired renal function, the effect being greatest 24 to 48 hours after the start of the attack and lasting for from 12 to 36 hours. When renal impairment occurred the blood diastase values returned to normal more slowly. If the renal damage occurred early the initial increase in urinary diastase values was delayed.

J. E. Page.

The Value of Blood Pyruvic Acid Estimations during the Performance of the Glucose Tolerance Test. GENNES, L. DE, BONFILS, S., and DELTOUR, G. (1951). *Pr. méd.*, **59**, 497.

Simultaneous blood glucose and blood pyruvate estimations were performed at $\frac{1}{2}$ -hourly intervals after administration of 50 g. of glucose to fasting subjects. Concentration of pyruvate in the blood was roughly 1/100 that of the glucose. In normal subjects the peak blood glucose level was at 30 minutes, but the peak blood pyruvate level was at about 60 minutes. Both returned to normal in 2 hours. In diabetics the rise in blood pyruvate level was either small or absent, while in cases of obesity it was also smaller than normal and might be lacking. In

alcoholic cirrhosis there was a delayed but steady rise in pyruvate level, maximal at 90 to 120 minutes. In cases of Cushing's syndrome the rise tended to be higher and to be more sustained.

The significance and value of the blood pyruvate curve are discussed. It is suggested that the test may be able to detect incipient diabetes before this is revealed by the blood sugar curve.

C. L. Cope.

HAEMATOLOGY

Chronic Involvement of the Liver in Intestinal Amoebiasis (Chronic Amoebic Hepatitis).

SANDLER, R. (1951). *Amer. J. digest. Dis.*, **18**, 29.

In contrast to acute amoebic hepatitis and hepatic abscess, chronic amoebic hepatitis has hitherto attracted little attention. The present author has, however, found symptoms which he attributes to chronic hepatic involvement in 47 of 180 cases of amoebiasis seen in southern Israel during the last 4 years. These symptoms, which persisted uninterruptedly for months, included anorexia, nausea and vomiting, diarrhoea or constipation, flatulence, tenderness and often slight enlargement of the liver, and occasionally pain in the right hypochondrium, shoulder, or back, felt only in certain postures.

Entamoeba histolytica was found in the stools in 34 of the 47 cases; the complement-fixation test was positive in 20 out of 25. Liver function tests generally gave normal results, although the formalin test was positive in 5 cases out of 6. Emetine was of no diagnostic or therapeutic value. The hepatitis appeared gradually to subside following routine treatment of the intestinal infection. Most of the cases were followed up "for years," and in none did liver abscess subsequently develop.

H. McC. Giles.

Successful Blood Transfusion by Means of a Siliconelined Syringe in a Case of Haemorrhagic Thrombocytopenia. FAVRE-GILLY, J., HIRSCH, I., DAMESHEK, W., and PRATT, J. (1950). *Sang*, **21**, 681.

A child of 9 years had since birth had a haemorrhagic diathesis which was not relieved by splenectomy. The bleeding time was prolonged and the platelets present were morphologically abnormal though not unduly reduced in number. The prothrombin index was

normal, but the prothrombin conversion by autologous platelets was defective. The bleeding tendency was not affected by a transfusion of citrated blood. The transfusion of blood from a thrombocythaemic donor by means of silicone-coated syringes was successful in arresting the haemorrhage: it was possible to show survival of morphologically normal platelets for several days with a reduction in bleeding time and prothrombin conversion. *John F. Loutit.*

Coagulation Defects with Intrauterine Death from Rh Isosensitization. WEINER, A. E., REID, D. E., ROBY, C. C., and DIAMOND, L. K. (1950). *Amer. J. Obstet. Gynec.*, **60**, 1015.

Defects of blood coagulation have been noted occasionally in cases of obstetrical complications. The authors, at Boston Lying-in Hospital, have observed 4 cases of Rh sensitization in which the foetus was known to have been dead *in utero* for several weeks and in which these coagulation defects were present. In 12 similar cases observed during a recent 2-year period no abnormality of the clotting mechanism was noted.

The first patient had skin ecchymoses, and the subsequent clinical course was complicated by intra-partum and post-partum haemorrhage. It was therefore decided to study the blood coagulation mechanism in subsequent cases. The second patient began to bleed after delivery of a foetus which had been dead *in utero* for 10 weeks, and she continued to do so in spite of a well-contracted uterus and administration of oxytocics. Blood transfusion to a total of 6,000 ml. was given, together with vitamin C and vitamin K, but in spite of this the blood failed to clot; later it was found that the clot dissolved within an hour of its formation. After the administration of 3,000 mg. of fibrinogen, blood loss was notably diminished but still continued, and subtotal hysterectomy was performed. Subsequently the patient's condition gradually returned to normal.

In the third patient, intrauterine death of the foetus occurred at the sixth month, and 2 months later ecchymosis and vaginal bleeding were observed. Clotting time was 15 minutes and plasma fibrinogen concentration was 35 mg. per 100 ml. After delivery 500 ml. of unclotted blood escaped, but intravenous administration of fibrinogen restored the clotting mechanism to normal within 24 hours. No subsequent abnormality was found.

In the fourth case the foetus died at the sixth month, at which time the plasma fibrinogen

concentration was 313 mg. per 100 ml. Two months later it had fallen to 50 mg. per 100 ml. and the following day to 35 mg. At this point bleeding began and 2,000 mg. of fibrinogen was administered, this dose being repeated twice in 12 hours. One hour after delivery the plasma fibrinogen level had risen to 230 mg. per 100 ml. and clotting time was normal.

Thus in 3 out of 15 patients a transient afibrinogenaemia occurred following intrauterine death of the foetus resulting from Rh iso-immunization. The syndrome can be recognized, and fibrinogen replacement is effective in correcting the defect.

[Fibrinogen does not appear to be generally available for clinical use in Britain, but the occurrence of this syndrome in 20% of a series of observed cases suggests that it is important that stocks should be held by all blood banks.]

J. A. Chalmers.

MORBID ANATOMY AND HISTOLOGY

Papillary Cystadenoma Lymphomatosum of the Parotid Gland. HOLMBERG, R. E., and GLOVER, D. M. (1951). *Surgery*, **29**, 240.

The authors have collected 151 cases of papillary cystadenoma from the literature and added 8 further cases of their own. These tumours arise 6 times more often in men than in women and occur later in life, most commonly in the sixth decade. The usual site is superficial, at the angle of the jaw or in the tail of the gland. They should be treated by total local excision and, when so treated, are unlikely to recur. The pathological characteristics are described and the various theories of origin, both old and new, are discussed.

[Nicholson's view that these tumours arise from heterotopic salivary tissue in lymph nodes, probably the most commonly accepted opinion in Great Britain, is not mentioned.]

A. J. Drew.

An Embryological Tumor of Retinal Anlage Involving the Skull. CLARKE, B. E., and PARSONS, H. (1951). *Cancer*, **4**, 78.

A tumour of the skull in the neighbourhood of the anterior fontanelle in a male infant was found microscopically to consist of cells of two types, some neuroblastic, others epithelium-like and pigmented. The diagnosis of "pigmented retinoblastoma" was made [in the abstracter's opinion, on inadequate grounds].

R. A. Willis.