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ABSTRACTS OF RECENT PUBLICATIONS OF THE PROFESSIONAL
STAFF OF THE HENRY FORD HOSPITAL AND THE EDSSEL B. FORD
INSTITUTE FOR MEDICAL RESEARCH

GASTRIC LIPOMA WITH HEMORRHAGE AND MYOCARDIAL ISCHEMIA
SIMULATING MYOCARDIAL INFARCTION. W. L. AGEY AND J. L. PONKA.
Gastroenterology 28:295, 1955.

Submucous gastric lipoma was first reported in 1835. In 1941 there were reviewed 34 cases, of which 17 were found at necropsy and 17 at operation. Subsequently, additional cases have been reported bringing the total number to 57. This is the 58th case and is the fourth case presenting gastrointestinal bleeding. The severe blood loss in this case accounted for the myocardial ischemia which in turn was evidently responsible for the clinical picture of myocardial infarction and the transient ECG changes. Medical management with replacement of blood and the use of an ulcer regimen until an exact diagnosis could be obtained resulted in healing of the mucosal ulceration. Roentgenological findings provided the impression that the lesion was benign. Gastroscopy was contemplated but rejected due to the possibility of a myocardial infarction, an absolute contraindication to gastroscopy. Surgery established the exact diagnosis. Massive gastrointestinal hemorrhage due to benign lipoma of the stomach is rare, four cases having been reported to date in the literature. Medical management, roentgen evaluation, and surgical intervention resulted in a cure.

*X-RAY DIFFRACTION POWDER DATA FOR STEROIDS. W. T. BEHER, J.
PARSONS AND G. D. BAKER. *Anal. Chem.* 27:1569, 1955.

X-ray diffraction powder data and pattern photographs were presented for 39 steroids. The relative intensities and the distribution of lines in the patterns are useful for the identification of pure steroids.

INTENSIVE INSULIN SHOCK THERAPY; A FIVE-YEAR SURVEY. EARL P.
BRANNON AND WALTER L. GRAHAM. *Am. J. Psychiat.* 111:659, 1955.

From April 15, 1948 to April 15, 1953, 615 patients were accepted for deep insulin shock therapy on the insulin therapy service of the Veterans Administration Hospital at Perry Point, Maryland; 528 patients completed a full course of treatment and were considered eligible for this survey. The method of treatment used was based upon the principles established by Shurley and Bond in the insulin unit of the Pennsylvania Hospital for Mental and Nervous Diseases, Philadelphia, Pennsylvania. Electric shock therapy was used in combination in those patients who did not have a satisfactory response from insulin alone. Analysis of the 528 patients treated revealed the following diagnoses: Paranoid schizophrenia, 247; catatonic schizophrenia, 138; hebephrenic schizophrenia, 21; simple schizophrenia, 12; schizophrenia, unclassified, 84; manic-depressive reaction, 16; miscellaneous reactions, 10. The social recovery rate ranged from 41.6 percent in the simple schizophrenias to 77.7 percent in the schizophrenias unclassified, and between 77.7 percent and 100 percent among the manic-depressive groups. It was found that the catatonic schizophrenias were the group with the highest percentage of relapse. Among the 528 patients were 513 males and 15 females. The social recovery rate between the two sexes was approximately equal.

*From Edsel B. Ford Institute for Medical Research.

One-hundred and thirty-eight negro patients were treated as compared to 390 white patients; the white group had a somewhat higher social recovery rate. The majority of patients treated, 62 percent, were within the 25 to 35 year age group. The group under 25 years had the best social recovery rate, and as the age increased the recovery rate was proportionally less. The series was studied for the effect of the duration of illness on the patient's chances of recovery. Reports of others on the decrease in rate of recovery proportional to length of illness were corroborated. It was, likewise, found that the length of hospitalization prior to institution of treatment materially decreased the recovery rate. An out-patient follow-up program for the socially recovered patients was developed. At the time of the survey of the 528 patients treated, 266 were still out of the hospital maintaining social recovery.

AN EVALUATION OF NEWER METHODS IN THE DIAGNOSIS OF HYPERPARATHYROIDISM. B. E. BRUSH, W. E. CHASE, AND M. A. BLOCK. A.M.A. Arch. Surg. 71:342, 1955.

The diagnosis of primary hyperparathyroidism is difficult. The levels of serum calcium and phosphorus are the most important diagnostic tests, but these may be borderline or vary so much in a given individual that a definite diagnosis cannot be made. Two diagnostic tests have been introduced recently, based on the effect of the parathyroid hormone in decreasing renal reabsorption of inorganic phosphorus. Experience indicates that by the intravenous calcium tolerance test the diagnosis of hyperparathyroidism is suspected if the serum phosphorus fails to rise over 1 mg. per 100 cc. during the test and if the urinary excretion of phosphorus remains approximately the same as or is greater than the value obtained prior to the infusion of calcium. According to the phosphorus reabsorption test the renal reabsorption of phosphorus is over 90 percent in normal persons, whereas, it is considerably lower in patients with hyperparathyroidism. Our experience in utilizing the tests in four patients is reported. It appears likely that the tests will be of limited value in certain situations as in the differentiation of primary from secondary hyperparathyroidism but will not give a decisive answer in all suspected cases. However, the tests with further experience, may give a higher percentage of correct preoperative diagnoses.

CONTROLLED STUDIES IN THE TOPICAL APPLICATION OF HYDROCORTISONE IN VASOMOTOR RHINITIS. JOHN H. BURGER AND JOSEPH H. SHAFFER. Ann. New York Acad. Sci. 61:566, 1955.

One hundred patients with vasomotor rhinitis were selected from clinical allergy practice to participate in a "double blind technique" study of the local effect of hydrocortisone applied to the nasal mucous membranes. Two preparations in identical plastic spray bottles labeled Preparation A and Preparation B were used. One contained a buffered isotonic saline suspension of hydrocortisone acetate, 15 mg./ml., the other the buffered isotonic saline base without hydrocortisone. The contents were unknown to patient and investigator. Each patient served as his own control since he received both preparations during alternate periods of not less than one month. In tabulating results, the change in appearance of the nasal mucous membranes and the degree of symptomatic improvement were evaluated. Nasal smears were examined microscopically at monthly intervals, and the cellular elements of the exudate were recorded. Analysis of results showed subjective and/or objective improvement in 86 percent of the patients receiving the hydrocortisone preparation, while subjective benefit was obtained

by only 7 percent of patients receiving the placebo. No objective improvement occurred in this latter group. Furthermore, 14 percent of the patients receiving the placebo were worse compared with 2 percent of those using the hydrocortisone. Studies by the same method on 100 additional patients using a suspension of hydrocortisone acetate 5 mg./ml., of hydrocortisone free alcohol 5 mg./ml., and hydrocortisone free alcohol in solution 0.2 mg./ml., produced similar results. However, the free hydrocortisone solution was somewhat less effective than either concentration of the acetate suspension or the free hydrocortisone suspension. There was no evidence of systemic absorption or significant adverse effects with any of the four preparations, in the concentration used. No marked alteration of the nasal exudate, or change in histological appearance of polypi was noted after therapy. No lasting benefit was obtained from the use of any of the preparations. Symptoms returned in all patients 10 to 14 days after discontinuing therapy.

CARCINOMA OF THE PANCREAS: A REVIEW OF 160 CASES. CHARLES I. CERNEY AND ROBERT B. WALLACE. *Am. Pract.* 6:1370, 1955.

The average age was 57.9 years, and the male to female ratio was 2.7 to 1. Symptomatically, the cases could be divided into four groups, each of which could be accompanied or preceded by weight loss, change in bowel habit and, less often, diabetes. (1) Cases in which there is pain usually in the upper abdomen, sometimes in the lower often radiating to the back. It may be evanescent but usually returns, and may become progressive and severe. It is often worse at night, and aggravated by jarring. (2) Cases in which there is jaundice which may accompany pain as the first symptom. It is infrequently painless, is usually progressive but may be fluctuant for a time and eventually severe. It almost uniformly develops when the head of the pancreas is involved but may be present without this. (3) Cases in which the symptoms are the result of metastases, either in the lung, or erosions of metastases elsewhere in the abdomen. In these the primary lesion is usually unsuspected until revealed at surgery or autopsy. (4) Cases in which there are venous thrombi or migratory thrombophlebitis. This may be alone, but more often accompanies the other groups of symptoms, and occurs most often when the body and tail are involved. There are no positive physical findings early in the disease. The liver and an epigastric mass eventually become palpable. The gall bladder was frequently palpable and usually was large at surgery. No laboratory findings were diagnostic. The serum amylase and lipase were rarely helpful. Occult blood occurred in the stool of 32 percent. Gastrointestinal x-rays suggested the diagnosis in 23 percent of the cases. The average duration of the illness was 25 weeks.

THROMBOPHLEBITIS MIGRANS AND VISCERAL CARCINOMA. ROBERT H. DURHAM. *A.M.A. Arch. Int. Med.* 96:380, 1955.

An abstract embodying substantially this same material is published in this *Bulletin* 3:169, 1955.

*TEST OF A-NAPHTHYLAMINE-4, 8-DISULFONATE AGAINST A TRANSPLANTED DERMAL SARCOMA. ROBERT H. FOULKES. *Cancer Res. Supp.* No. 2, p. 53, 1955.

• Sprague-Dawley albino rats with transplanted dibenzanthracene-induced dermal

*From Edsel B. Ford Institute for Medical Research.

tumors were employed. The tumors were 21-30 days post transplants. The compound in aqueous solution was injected subcutaneously twice weekly for 3 weeks at a dose of 50 mg./kg./injection. Observations on the tumors were made for 7 weeks after the last injection. Tumors were measured by the external largest and smallest axes. Noted were no retardation, no regression, no toxicity as judged by lack of weight loss, and no deaths in the 4 treated tumor-bearing animals compared with the controls. No histological changes were observed in the treated animals.

DIFFUSE LEPTOMENINGEAL CARCINOMATOSIS: Clinical And Pathologic Characteristics. GERALD O. GRAIN AND JEAN P. KARR. *Neurology* 5:706, 1955.

Invasion of the central nervous system by blood-borne metastatic foci is seen commonly in the brain parenchyma. A rapidly fatal result may occur with a purely subarachnoid and leptomeningeal invasion, apparently lymph-borne by way of peripheral perineural pathways. Two cases are reported in which autopsy revealed no blood-borne metastatic nodules in the brain substance, choroid plexus or meninges, making a total of 85 such cases now reported in the literature. Clinically, the condition resembles tuberculous meningitis without fever and with sterile fluid in which tumor cells may be found. Pathologically, the primary lesion is found most frequently in the stomach and the meningeal invasion occupies all parts of the subarachnoid spaces, infiltrating intradural portions of nerve roots and superficial cortical perivascular spaces. Evidence supporting a perineural invasion in these cases is presented. The survival and spread of the cancer cell in the subarachnoid space is related to the presence of glucose in the cerebrospinal fluid.

FOUR-YEAR STUDY CONCERNING THE INACTIVATION OF VIRUSES IN BLOOD AND PLASMA. FRANK W. HARTMAN, A. R. KELLY, AND G. A. LOGRIPPO. *Gastroenterology* 28:244, 1955.

Screening of 550 compounds for antiviral activity in plasma has revealed that most active viricides can be classified in one of seven groups, based on chemical structure. Of the active agents, nitrogen and sulfur mustard, ethylene oxide and beta-propiolactone (BPL) have shown the best potentialities for sterilizing blood or plasma. To date, beta-propiolactone appears the most promising of these compounds from a viricidal and toxicologic standpoint. The bulk of virus activity in plasma can be destroyed by relatively low concentrations of beta-propiolactone (1000 mg./l.), even in the case of the sturdiest laboratory virus. However, two to three times this basal concentration is required to inactivate residual traces of these viruses and to thus insure absence of infecting units in transfusion volumes of plasma. The extent to which the basal concentration must be augmented to overcome this so-called "trailing effect" appears to be a function of individual virus resistance. Therefore, the concentration required for complete sterilization of the serum hepatitis virus must necessarily be determined directly by human volunteer studies with that virus. Investigations of this type have been in progress elsewhere for some time. Such factors as virus titer and plasma protein concentration also influence the sterilizing dosage of this compound. Beta-propiolactone possesses possibilities for sterilizing erythrocyte suspensions. Beta-propiolactone and ultraviolet irradiation have been found to be mutually potentiating when used in combination for the sterilization of plasma. Plasma treated with beta-propiolactone displays a striking lack of toxicity even at concentrations three to four times those required for complete inactivation of laboratory viruses.

Over a 3-year period 241 patients have received 767 transfusions of plasma treated at viricidal concentrations without evidence of toxicity or production of serum hepatitis.

HYPOFIBRINOGENEMIA AND DEFECTS OF COAGULATION. C. PAUL HODGKINSON, JOHN H. LUZADRE, PAUL W. PIFER, LAYMOND A. SWINEHART, AND DONALD G. REMP. *Obst. & Gynec.* 5:465, 1955.

Using transient fibrinogen depression as observed in serial blood samples as a diagnostic "end point," the severity and incidence of thromboplastin influence on fibrinogen levels was evaluated in obstetric and gynecologic patients. It was possible to correlate relative fibrinogen values with incoagulable blood, blood clot stability, "obstetric shock," critical plasma fibrinogen level, and effectiveness of therapy. Pathologic defibrination results in massive precipitation of insoluble fibrin. The importance of massive embolization from intravascular coagulation as an important pathologic mechanism is gaining recognition. Obstetric shock and nonhemorrhagic traumatic shock are possibly on this basis. Organ insufficiency from fibrin embolization such as pituitary necrosis, bilateral renal cortical necrosis, and certain forms of cerebral thrombosis have been suggested as being associated with defibrination. The spectrum of effects resulting from lesser degrees of defibrination remains speculative. Hypofibrinogen reactions characteristic of defibrination have been identified with many types of tissue injury. Surgical trauma, absorption of the products of aseptic necrosis from intrauterine fetal autolysis, and uteroplacental trauma are well documented from serial fibrinogen studies. Excessive muscular activity has been suggested as a thromboplastin-provoking reaction. Convulsive eclampsia and unusually severe uterine contractions have been associated with fibrinogen depression. The observation that fibrin emboli and hemorrhage from defibrination have never been observed in nonconvulsive toxemia suggests the importance of abnormal muscular contraction as a defibrinating factor. Realization that the degree of surgical trauma may be directly related to the extent of defibrination is a sobering thought. One question is if flooding the circulatory system with insoluble fibrin during and immediately following a cutting operation may not serve as the nidus for subsequent phlebothrombosis and pulmonary embolism. These factors place a premium on atraumatic surgical procedures and especially upon atraumatic surgeons.

REHABILITATION IN ARTHRITIS: A Case Report. WILLIAM M. JACKSON, JOHN W. SIGLER, DWIGHT C. ENSIGN, JOSEPH L. FLEMING, AND CHARLES LONG. *J. Michigan M. Soc.* 54:330, 1955.

A patient disabled with arthritis is not only a candidate for organized therapy in a rehabilitation center but also should be the responsibility of every physician engaged in the practice of medicine. Most patients with arthritis are unusually grateful for any help they receive. The case presented represents one of "mixed arthritis," including elements of osteoarthritis, rheumatoid and traumatic types. The patient entered the hospital weighing 320 pounds and in bed from arthritic pain and weakness. After 215 days she left the hospital weighing 172 pounds and able to walk with crutches. Upon discharge she was still on crutches and had evidence of rheumatoid arthritis. Admitting the absence of curative therapy in most of the arthritides, there are available rehabilitative measures which can do much to relieve suffering, improve function, correct deformities and return the patient to a nearly normal, useful and hopeful life. These divide themselves into three general, overlapping categories. These

are the general medical care, the orthopedic measures which may be undertaken and the contributions of physical medicine.

***PROSTHETIC GROUP AND MECHANISM OF ACTION OF SUCCINIC DEHYDROGENASE.** EDNA B. KEARNEY AND THOMAS P. SINGER. *Resumes Des Communications Troisieme Congres International de Biochemie*, Brussels, 1955, p. 55.

Homogeneous succinic dehydrogenase contains two atoms Fe per mole. From aged acetone powders an enzyme with one atom of Fe has been isolated, with half the activity per gram of protein but apparently unchanged in other respects. The total Fe is liberated as inorganic, ferrous iron on acidification or boiling. The enzyme has an amber brown color. A part of this absorption is due to the Fe-protein bond. Reduction by hydrosulfite or by succinate causes the appearance of a difference spectrum characteristic of flavoproteins. Conventional methods of denaturation liberate little or no flavin from the enzyme, but prolonged boiling in acids liberates considerable free flavin, as does digestion with trypsin and chymotrypsin, in accord with observations in Green's laboratory (personal communication). Only a small fraction of the trypsin digest registers as FAD in the D-amino acid oxidase test. Thus, flavin appears to participate in the action of succinic dehydrogenase, but it is extremely tightly bound, and the exact form in which it occurs in the enzyme remains to be determined.

NEUROBLASTOMA IN CHILDHOOD. C. EVERETT KOOP, WILLIAM B. KIESSWETTER, AND ROBERT C. HORN, JR. *Surgery* 38:272, 1955.

A series of 44 cases of neuroblastoma occurring in infants and children is reported. Of 39 patients coming under observation at least 14 months ago, 12 survive to date. The 14 month interval is considered to be equivalent to the conventional 5 year follow-up period in the adult. The survivors are without clinical evidence of disease despite the fact that many of the tumors were incompletely removed or were known to have metastasized, often to the liver. No patients with bone metastases were among the survivors. The survivals could not be related to radiation treatment or chemotherapy. The chances of clinical "cure" were best in the youngest age groups. Most of the tumors of the surviving patients showed some degree of differentiation. The removal of all or a major portion of a neuroblastoma, even in the presence of metastases, is associated with a better survival rate than when biopsy alone is performed on an "inoperable" tumor.

STUDIES ON THE PERCUTANEOUS ABSORPTION OF FLUDROCORTISONE. C. S. LIVINGOOD, J. S. HILDEBRAND, J. S. KEY, AND R. W. SMITH, JR. *A.M.A. Arch. Dermatol.* 72:313, 1955.

Percutaneous absorption of fludrocortisone (9 α -fluorohydrocortisone) may occur following topical application of the drugs; if the quantity absorbed is sufficient, sodium retention, manifested by decreased urinary sodium excretion, weight gain, and/or edema may be a complication of therapy. Clinical and experimental data in reference to 11 hospitalized patients with various types of dermatitis who were treated with 0.1 percent or 0.2 percent fludrocortisone lotion and/or ointment are presented. Similar data for two ambulatory volunteer subjects with normal skin are included. Absorption is facilitated when the medicament is applied in a lotion vehicle rather than an ointment base. For short-term therapy, a probable "safe" daily topical dose

*From Edsel B. Ford Institute for Medical Research.

of fludrocortisone is 2-6 mg. in lotion form, and 5-12 mg. in an ointment base; in some patients, with prolonged daily treatment, even these quantities may cause significant sodium retention, especially if applied to the perianal and/or vulvar areas. In general, it seems preferable to avoid the use of fludrocortisone ointment and lotion in patients who have hypertension, toxemia of pregnancy, congestive heart failure, and nephritis. Patients who are using fludrocortisone topical preparations should be observed at regular intervals and checked for weight gain and edema. The medicament should be discontinued immediately if there is evidence of sodium retention as manifested by significant weight gain and/or edema. Percutaneous absorption of a glucocorticoid producing systemic effects can occur without being detectable by determination of the urinary 17-hydroxycorticosteroid and 17-ketosteroid excretion; the circulating eosinophile count has the same limitation. Clinical experience to date indicates that fludrocortisone is a very effective topical medicament for the treatment of various types of dermatitis; if appropriate precautions are observed, problems resulting from significant sodium retention will be minimal.

ANTIGENICITY OF B-PROPIOLACTONE-INACTIVATED VIRUS VACCINES.

GERALD A. LOGRIFFO AND FRANK W. HARTMAN. *J. Immunol* 75:123, 1955.

The search for a more satisfactory agent in the preparation of inactivated virus vaccines has continued through the years. The physical and chemical agents currently in use are not entirely satisfactory due to the narrow margin of safety between complete virus inactivation and the degree of antigenicity retained. Although the bulk of the virus can be inactivated relatively easily, it is extremely difficult to eliminate the trace quantities of living virus without using larger quantities of the virucidal agent. In obtaining complete inactivation, most agents destroy the virus structure so that little, if any, antigenic response is obtainable. In this respect beta-propiolactone (BPL), a chemical agent not hitherto used in the preparation of vaccines, appears to be superior to formalin and phenol, as a high degree of antigenicity can be maintained even when an excess of the minimal effective virucidal concentration is used. In addition, BPL inactivates completely and irreversibly in 10-15 minutes at 37° C, whereas, formalin and phenol require days under the same conditions, the procedure for preparation of BPL inactivated virus vaccines moreover being simple and rapid. The antigenic response of beta-propiolactone-inactivated virus vaccines in rabbits and mice, as determined by neutralization tests and induced immunity, show the degree of antigenicity maintained with rabies, eastern equine encephalomyelitis and MM-viruses to be significantly higher than that of either formalin—or phenol-inactivated vaccines. Beta-propiolactone-inactivated MM-virus vaccine in rabbits and rabies virus vaccine in mice produces an antigenic response almost equal to the live virus vaccines. In both instances the amount of drug used was at least 50 percent in excess of that required to inactivate the respective viruses to nondetectable quantities in susceptible animals.

RECENT ADVANCES IN THE TREATMENT OF PERNICIOUS ANEMIA.

RAYMOND W. MONTO, JOHN W. REBUCK, AND JAMES T. HOWELL. *J. Michigan M. Soc.* 54:1101, 1955.

Pernicious anemia is a deficiency disease arising from the failure to absorb 1/1,000,000 of a gram of vitamin B₁₂ daily from the gastrointestinal tract. This defect

results in altered systemic cellular metabolism characterized clinically by a macrocytic anemia, gastrointestinal and central nervous system manifestations. When Minot and Murphy announced twenty-five years ago that pernicious anemia could be treated successfully with whole liver, this disease was removed from the category of uniformly fatal refractory anemias. In the therapy of pernicious anemia, we have a potent specific factor, vitamin B₁₂. The transfusion of blood is still important when the degree of anemia is sufficient to produce cardiac insufficiency and, in general, is to be considered when the red blood count is below 1,000,000 cells per cu. mm. Usually 15 micrograms are given each day intramuscularly for one week and twice weekly until full hematological remission is obtained. Aerosol inhalation of crystalline vitamin B₁₂ can be demonstrated to produce complete hematological response in pernicious anemia patients. Similar responses result from the inhalation or nasal insufflation of vitamin B₁₂ lactose powder. A single application of 150 micrograms of B₁₂ crystals on the nasal turbinate mucosa gave a complete remission lasting for three months. In addition to the resolution of the anemia we encountered complete relief from the gastrointestinal symptoms and improvement in the neurological manifestations comparable to parenteral therapy.

LIPOMA OF THE CORPUS CALLOSUM. W. A. NORDIN, H. TESLUK, AND R. K. JONES. A.M.A. Arch. Neurol. & Psychiat. 74:300, 1955.

A case of lipoma of the corpus callosum treated at Henry Ford Hospital and a summary of cases in the literature since 1946 are presented. Forty-five cases have been reported. Experience with these indicates that there is a distinctive picture seen on plain skull x-rays. When operative removal is attempted the patient seldom survives. Due to their large size, midline location, vascularity, and involvement of the anterior cerebral arteries, complete removal is rarely possible. Those patients explored and only biopsied have better survival records. This case was that of a 16 year old girl who had an excision of a frontal scalp subcutaneous lipoma when 4 months, which recurred at 13. This was excised, and a small stalk was seen to pass through the point of fusion of the anterior fontanel. Later, an attempt to remove the intracranial component was made. Complete removal was impossible. The left anterior cerebral artery was clipped to facilitate exposure of the tumor. The patient died in 26 hours with signs of increasing intracranial pressure. At autopsy, a 5 by 10 by 4 cm. lipoma occupying the midportion of the brain was found displacing the corpus callosum. The splenium of the corpus callosum was absent. The medial surface of both frontal lobes showed softening and petechial hemorrhage, and fresh thrombi were present in both anterior cerebral arteries. Four other cases demonstrating association of lipoma of the corpus callosum with a midline subcutaneous scalp lipoma have been reported. These suggest that some lipomas of the corpus callosum result from inclusion of tissue containing fat-cell precursors within the closing lips of the neural groove and represent a congenital anomaly rather than metaplastic or neoplastic transformation. Many cases have vague symptoms. It appears that occurrence of more severe neurologic signs and symptoms appearing after puberty may be the result of continued slow growth of the fatty tumor after cessation of brain growth.

INTRAMUCOSAL CARCINOMA OF THE ESOPHAGUS. ROGER W. O'GARA AND ROBERT C. HORN, JR. A.M.A. Arch. Path. 60:95, 1955.

A report of an unusual case of carcinoma of the esophagus. During life there were no symptoms directing attention to the esophagus, the patient's complaints being related to cervical lymph node metastases. The clinical diagnosis was squamous cell epithelioma, possibly of parotid salivary gland origin. At autopsy, the only gross abnormality of the esophagus was a tiny ulcer. However, microscopic examination of this area revealed carcinoma and dictated detailed study. The greater part of the esophagus proved to be involved, almost all of the tumor being confined to the mucous membrane and glands. Invasion of the submucosa and the superficial part of the muscle occurred at one point. Metastases were present in the lungs and in cervical, axillary and thoracic lymph nodes.

WHIPPLE'S DISEASE. ROBERT H. PUITE AND HENRY TESLUCK. Am. J. Med. 19:383, 1955.

Four cases of Whipple's disease diagnosed between 1943 and 1954 are presented. Case histories of brothers with proven disease and extensive family history suggesting possible abnormalities in other members is presented. Diagnosis by peripheral node biopsy is proposed. It is concluded that pituitary-adrenal factors have no fundamental role in the etiology or fatal outcome of the disease despite the improvement, at least temporarily, of patients receiving ACTH or corticosteroid therapy. The opinion is expressed that the disease is a hereditary one whose transmission is not greatly different from that seen in the malabsorption syndrome and whose primary defect is probably a metabolic one localized in the intestinal mucosa.

THE MUMPS SKIN TEST AND COMPLEMENT FIXATION TEST AS A DIAGNOSTIC AID IN SARCOIDOSIS. EDWARD L. QUINN, DAVID C. BUNCH, AND ELIZABETH M. YAGLE. J. Invest. Dermatol. 24:595, 1955.

Investigations have revealed the following: 1) an inability of sarcoid patients to develop and maintain a skin sensitivity to BCG vaccine; 2) the ability to transfer passively tuberculin sensitivity to tuberculin negative patients with sarcoidosis, indicating that the negative tuberculin reaction is not due to anticutins or other inhibiting factors in the skin; 3) a singular lack of cutaneous reactions to oidiomycin, trichphytin, and mumps virus antigen, as well as tuberculin, in patients with sarcoidosis; and 4) failure to develop skin sensitivity in normal fashion after immunization with pertussis agglutigen, although circulating antibodies appear in normal titres. This latter point constitutes the key in our present studies with the use of the mumps skin test and complement fixation test in sarcoid patients in that we can postulate that patients who have a positive complement fixation test to mumps should usually, in contrast to normal adults, have a negative skin test to the mumps antigen. Seven consecutive patients with sarcoidosis were tested. All had positive complement fixation tests and six of the seven had negative mumps skin test. This indicates a failure of skin sensitivity reaction of 85 percent compared to the expected normal anergic response of 7 percent.

A NEW PTOSIS OPERATION UTILIZING BOTH LEVATOR AND FRONTALIS.
ROBERT A. SCHIMEK. A.M.A. Arch Ophth. 54:92, 1955.

Ptosis, or drooping of the upper lid, can usually be corrected by surgery. If there is some muscular power in the levator (the lid muscle that normally elevates the upper lid), it can be shortened and thus strengthened, and the lid lifted into a normal position. Unfortunately, some severe cases of congenital ptosis will have very little or no muscular power in the levator muscle. In such a case, additional use of the frontalis muscle will compensate for any undercorrection that would result from using the very weak levator muscle alone. The following operative procedure combines use of both levator and frontalis muscles. The levator is clamped, dissected from the lid and conjunctiva and split longitudinally. Two incisions are made in the tarsus and above the brow. With a ptosis knife, each tongue of levator is pulled through its tarsal buttonhole and further subcutaneously, up to the frontalis muscle to which it is sutured. This maneuver increases levator power by advancing and thus effectively shortening the levator muscle fibers. Increasing the power of the levator muscle fibers, which are normally used for lid movement, accomplishes the most normal correction possible. Use of levator is the best way to accomplish normal blinking, lid closure and synchronous vertical following movements between the lid and the eye. Additional use of the frontalis compensates for any under correction or lid immobility that might result from use of a paretic levator alone. The frontalis/tarsus connection by levator tendon, rather than a buried suture or a fascia transplant, avoids the risk of infection around foreign material at a later date. Satisfactory results have been obtained in severe congenital ptosis with very poor or no levator action using this new operation which combines levator and frontalis utilization.

RESECTION FAILURES IN PULMONARY TUBERCULOSIS. RALPH J. SCHLOSSER
AND FRED J. JARVIS. J. Thoracic Surg. 29:335, 1955.

An analysis of the failures in a series of 400 consecutive patients undergoing resection for pulmonary tuberculosis is presented. Detailed study includes the early and late deaths, the readmission and multiple resection groups, and other failures. We feel that this study is helpful in the evaluation of present* trends in surgical therapy of pulmonary tuberculosis. Inadequate functional reserve has been a major cause of both early and late death. Whereas major blowout of a bronchial stump indicating insecure closure was responsible for early death in two cases, a third of our late deaths were accountable to empyema with late bronchopleural fistula. The etiology of these late hazards in most cases is felt to stem from seemingly innocuous but persistent pleural fluid. As demonstrated by our readmission and multiple resection group, residual caseous disease is a definite threat to a patient's future. In certain of these patients somewhat greater extension of the initial resection might well have prevented later surgery. Reactivation rather than "spread" is usually the manner of exacerbation of disease following resectional therapy.

EXPERIMENTAL VENTRICULAR SEPTAL DEFECT: The Right Atrial Approach.
NICHOLAS P. D. SMYTH, THOMAS GEOGHEGAN, AND CONRAD R. LAM. Surg., Gynec.
& Obst. 100:351, 1955.

A method was devised for creating surgical defects in the mid portion of the ventricular septum without damage to the external ventricular wall. A cutting instru-

ment of the cork-borer variety was inserted through the right atrial appendage. The sharp tip of the instrument was guided through the tricuspid valve and beneath the arch of the chordae tendineae of the anterior leaflet and then driven through the septum. The excised plug of septal tissue was removed by suction applied to the lumen of the cutting instrument. This method was used to create septal defects in approximately 100 dogs without producing tricuspid regurgitation or significant conduction disturbances. Photographic recordings were taken with the Hathaway oscillograph of the pressure pulses in the right and left ventricles, the aorta and pulmonary artery and the right atrium. Alterations of the pressure curve contours produced by the defect are illustrated and analyzed. Oxygen studies indicated left to right shunts of 26 to 76 percent through the defects.

LATEROPOSITION OF THE ATRIAL APPENDAGES: A Case Of Levoposition Of The Appendages. NICHOLAS P. D. SMYTH. A.M.A. Arch. Path. 60:259, 1955.

A case is described in which multiple cardiac anomalies were found, the special atrial appendages, both of which lay to the left of the great vessels. In the absence of a generally accepted name for this anomaly, lateroposition of the atrial appendages is suggested as a general term, the two varieties being levoposition and dextroposition of the atrial appendages. The literature on this anomaly, comprising reports on 15 cases of levoposition and 2 cases of dextroposition of the atrial appendages, is reviewed, and the essential features of all the cases are tabulated. The embryology of this anomaly is discussed and a scheme of development suggested for the known variants of this anomaly.

RESECTIONAL SURGERY OF THE ABDOMINAL AORTA: Problems Of Case Selection And Operative Technique. D. EMERICK SZILAGYI, ROGER F. SMITH, AND PAUL R. OVERHULSE. A.M.A. Arch. Surg. 71:491, 1955.

With the background of clinical study of 53 abdominal aortic aneurysms and the experience of 34 resections of lesions of the abdominal aorta (15 aneurysms and 19 aortoiliac segmental occlusions), the problems of aneurysmal case selection and some technical questions in the resectional surgery of the abdominal aorta are discussed. Certain criteria of operability are suggested in the management of abdominal aortic aneurysm. The prognostic significance of the distinction between pure segmental aortoiliac occlusion and segmental aortoiliac occlusion secondary to diffuse arteriosclerosis is stressed. Resection of the entire aortic bifurcation and of all the diseased portions of the common iliac arteries is advised for the treatment of incomplete but advanced aortoiliac occlusion. An extension of the level of resection distalward is recommended in preference to intimestomy in cases where the degree of arterial disease does not permit anastomosis with the intact artery at the common iliac level.

EVALUATION OF DICIDUOUS MOLARS TREATED BY PULPOTOMY AND CALCIUM HYDROXIDE. WILLIAM F. VIA, JR. J. Am. Dent. Assoc. 50:34, 1955.

This investigation was undertaken to evaluate the treatment of primary molars by pulpotomy and calcium hydroxide by studying the postoperative roentgenograms of a number of treated teeth. The procedure followed was to select a sample from the 800 records of pulpotomies on file at the Children's Clinic of the School of Dentistry of the University of Michigan. The sample was limited to deciduous molars in the mandibular arch. Postoperative roentgenograms were secured after sufficient time

had elapsed to determine whether the treatment could be judged. Teeth that were shed less than one year after the pulpotomy were excluded. Also a small number of treated teeth, which were obvious failures from the start. The sample consisted of 102 primary molars. The treatment was judged to have failed in 68.9 percent of the treated teeth. Standard error of this percent was found to be 4.6 percent. Of the 71 teeth on which treatment had failed, 48 exhibited internal resorption with or without periapical involvement. This finding indicates that 68.9 percent of the total teeth on which treatment had failed showed internal resorption. Certain factors which were thought to influence the success or failure of the treatment were subjected to statistical evaluation. These factors included the presence of a preoperative reaction in the tooth, a large area of exposed pulp and injection of anesthetic directly into the pulp tissue. It was found that there was no evidence of any relation between these factors and success or failure, except that which existed through chance alone.

*CRYSTALLINE ALPHA RAY-ACETYLENE REACTION PRODUCTS. JOHN H. L. WATSON. *Radiation Res.* v. 3, 1955.

Crystals were reported observed in deposits formed by the bombardment of acetylene gas by alpha particles from radon. The crystals were described for acetylene but have been observed also in deposits from CO and CH₂CHCL. The radon was contained within a thin-walled glass bulb, and the deposits were collected directly in the reaction chamber and examined in the electron microscope without manipulation. This is the first observation of crystalline materials in such reaction products. Observation of the usual liquid and quasiliquid droplets was also reported for these materials mounted in this special manner.

*From Edsel B. Ford Institute for Medical Research.