

12-1962

Abstracts

Follow this and additional works at: <https://scholarlycommons.henryford.com/hfhmedjournal>



Part of the [Life Sciences Commons](#), [Medical Specialties Commons](#), and the [Public Health Commons](#)

Recommended Citation

(1962) "Abstracts," *Henry Ford Hospital Medical Bulletin* : Vol. 10 : No. 4 , 607-612.

Available at: <https://scholarlycommons.henryford.com/hfhmedjournal/vol10/iss4/11>

This Article is brought to you for free and open access by Henry Ford Health System Scholarly Commons. It has been accepted for inclusion in Henry Ford Hospital Medical Journal by an authorized editor of Henry Ford Health System Scholarly Commons. For more information, please contact acabrer4@hfhs.org.

ABSTRACTS

*Feedback control of cholesterol biosynthesis in the mouse. W. T. Beher, G. D. Baker and W. L. Anthony. *Proc. Soc. Exp. Biol. Med.* 109:863, 1962.

The effects of cholesterol and of the end products of cholesterol metabolism on rate of cholesterol biosynthesis have been the subject of several investigations. It is known that cholesterol itself lowers the rate of hepatic cholesterol synthesis, but it appears to have little effect on cholesterol synthesis in extrahepatic tissues. Bile acids also have been shown to control the rate of hepatic cholesterol metabolism through a feedback reaction. Two schemes have been proposed to explain the mechanism of this feedback: It was shown that cholic acid brings about equal decreases in the rates of both hepatic cholesterol and bile acid biosyntheses. Since a preceding study had shown that the rate of bile acid synthesis in mouse liver is inhibited by cholic acid independently of its effect on cholesterol synthesis, it was concluded that the rate of hepatic cholesterol biosynthesis in mice is controlled by cholic acid and its conjugates by means of a double feedback reaction.

Maneuvers to facilitate difficult biliary tract surgery. M. A. Block, J. H. Wylie, and L. S. Fallis. *Surg., Gynec. & Obst.* 115:35, 1962.

Certain technical difficulties encountered in gallbladder and biliary tract surgery have been presented, and maneuvers which facilitate the ease and safety of surgery in this area have been discussed. The maneuvers include: (1) opening through the avascular area located between the liver and gallbladder, at the level where the cystic artery and duct join the gallbladder, to facilitate the isolation of the cystic artery and duct, and (2) opening the gallbladder, after emptying it of its contents, and inserting the left index finger within the gallbladder in order that its margins may be defined more accurately.

The prevalence of chronic bronchitis in an industrial population. G. L. Brinkman and E. O. Coates, Jr. *Am. Rev. Resp. Dis.* 86:47, 1962.

Thirteen hundred and seventeen men aged 40 to 65 years who were working full time in the Detroit area were surveyed. A questionnaire, chest roentgenogram, and spiogram were obtained on each person. These men were divided into four categories: (1) no industrial exposure, 175; (2) industrial but no silica exposure, 598, (3) silica exposure for more than 20 years, normal chest roentgenogram, 404; (4) silica exposure for more than 20 years, roentgenogram showed silicosis, 140. Bronchitis, which was defined as the production of at least one teaspoon of sputum daily for the preceding six months, occurred in 17.4 per cent at the age of 40 to 44, rising to 24.7 per cent at the age of 60 to 64. The over-all prevalence of bronchitis in each of the above groups was 34.8, 22.6, 15.6, and 31.5 per cent, respectively. The influence of increasing age, occupation, dust exposure, and cigarette smoking is considered. Cigarette smoking appears to be the most important factor in the etiology of chronic bronchitis in this selected group of the male population.

Cutaneous sensitivity to the ingestion of alcohol. R. J. Coskey and R. P. Fosnaugh. *J. Mich. Med. Soc.* 61:718, 1962.

A case of dermatitis on the forearms and face following the ingestion of alcoholic beverages is reported. The explanation for cutaneous reaction to an alcoholic beverage may be: Foreign substances in the beverage may cause the reaction; the alcohol may increase permeability of the gastrointestinal tract, thus facilitating the absorption of incompletely digested proteins; it might cause a subclinical reaction to become apparent; or it might act as a haptene and combine with a body protein, causing an allergic reaction.

Angiography of the renal areas including a comparative study of renal arterial stenoses in comparative study of renal arterial stenoses in patients with and without hypertension. W. R. Eyler, M. D. Clark, J. E. Garman, R. L. Rian, and D. E. Meininger. *Radiology* 78:879, 1962.

Five hundred cases in which angiography was done were studied. Four hundred and nine patients had been examined because of a variety of vascular problems; 91 were examined

*Edsel B. Ford Institute for Medical Research.

ABSTRACTS

angiographically because of problems related to the renal area, such as hypertension, abdominal bruit, or radiographic renal abnormality. Clinical records, excretory urograms and, where available, isotope renograms, surgical findings, and pathologic reports of these patients were reviewed. All types of major renal arterial disease that were present in the hypertensive patients were found also in the normotensive group. Severe stenoses, even if bilateral and accompanied by post-stenotic dilatation, were not necessarily associated with hypertension. The isotope renogram has often been helpful. Angiographic study of the renal arteries is essential to the evaluation of any patient who is a candidate for a surgical procedure for hypertension. When there is a balance between the available blood supply and the amount of functioning parenchyma, normotension results. If there is a greater diminution in blood supply than there is in functioning renal parenchyma, ischemia and hypertension may follow. If major renal arterial disease is present, arteriosclerosis of intrarenal arteries (the atherosclerotic kidney) or other factors reducing the amount of functioning renal parenchyma may cause lowering of demand so that there is no ischemia and no hypertension.

Safe-guards in gallbladder surgery. L. S. Fallis. J. Med. Ass. Ala. 31:398, 1962.

Successful gallbladder surgery necessitates: (1) A complete physical examination with special evaluation of the biliary, gastro-intestinal, cardiac and respiratory systems. (2) Correction of existing metabolic deficiencies. (3) A surgical team consisting of a competent anesthesiologist, trained assistants and adjutant personnel working in an adequately lighted operating room, and (4) A surgeon who realizes that he is undertaking a hazardous operation where the margins of safety are small and that he is likely to encounter anatomic variations which will require correct interpretation if the patient's life is not going to be jeopardized or his future welfare and that of his family impaired.

Differential diagnosis of shoulder pain. Scientific exhibit. J. L. Fleming, R. S. Knighton, W. Noshay and J. S. Sigler. Postgrad. Med. 32:165, 1962.

Osteomalacia. B. Frame. J. Mich. Med. Soc. 61:779, 1962.

In this review, an attempt has been made to consider the diagnostic criteria and etiologic factors for the metabolic bone disease, osteomalacia. It is suggested that further varieties of osteomalacic bone will be uncovered with the more frequent consideration of local cellular defects in osteoid mineralization, in addition to the known general pathogenetic disturbances in calcium and phosphorus metabolism. More common usage of bone biopsy, especially the study of undecalcified bone sections, is indicated in ill-defined medical bone diseases. Recent improvements in preparation and study of bone sections will, no doubt, change our present day concepts of medical bone disease and may help uncover heretofore undescribed bone syndromes.

Human osteoid seams. H. M. Frost. J. Clin. Endocr. 22:631, 1962.

If the definition of osteomalacic bone as bone containing abnormally large numbers of osteoid seams is accepted for the moment, then it may be said that there is no precise definition of osteomalacic bone. There are potential errors in describing human osteoblastic activity solely in terms of osteoid seams per unit volume of diaphyseal cortex. Within limits, it should be possible to measure normal human osteoblastic activity in terms of osteoid seams per unit volume of bone for various bones. Interest has been stimulated in the idea that the initial act in mineralization is formation of an organic epitaxial foundation for deposition of the first hydroxyapatite crystals. Formation of the first crystals requires energy, and the process is termed "nucleation." The amount of bone in a given skeleton, normal or pathologic, is believed to be the summation of bone resorptive and formative processes in the time prior to the moment of observation. This statement merits investigation. The work here describes some of the features of osteoid seams as seen in human lamellar bone. The increase in numbers of seams after age 30 is provocative in view of the general belief that the gonadal hormones stimulate new bone formation.

Laboratory and clinical studies on P-12, a new penicillin. J. E. Greer, C. S. Livingood and L. E. Valker. Bact. Proc. 1962, p. 84.

P-12 (5-methyl-3-phenyl-4-isoxazolyl penicillin) is a penicillinase-resistant oral and parenteral penicillin. The susceptibility of over 400 strains of *Staph. aureus* from the lesions of

ABSTRACTS

as many patients was determined using 1 and 2 mcg discs of P-12. All strains were inhibited by both discs, yet 59 percent were resistant to penicillin G, and 65 percent were resistant to at least one antibiotic. There were diverse phage types. Agar dilutions were used to test the susceptibility of 363 strains to penicillin G, phenethicillin, methicillin, P-12, vancomycin and chloramphenicol. Strains resistant to all but methicillin and P-12 were noted. The MIC for methicillin never exceeded 5 mcg/ml; occasionally it was 1 mcg/ml. For P-12 it was usually 1 mcg/ml; in only 6 percent it was 5 mcg/ml. Broth dilution tests were used on 26 strains; the MIC ranged from 0.39 to 1.56 mcg/ml. No increase in resistance was found in paired strains of staphylococci isolated before and during P-12 therapy using 1 to 2 gm daily for periods of 5 days to 5 weeks. The antistaphylococcal activity of serum of 12 subjects after oral doses of ½ gm P-12 was also determined, and log₂ titers as high as 9 obtained. Only one drug reaction, a toxic, fixed erythema, occurred among 45 patients, some taking as much as 3 gm daily. Of 11 patients with severe, chronic furunculosis, complete suppression of lesions resulted when the daily dose was at least 2 gm. New lesions appeared, however, in 1 to 2 weeks after decreased dosage, or none. Thus infections were controlled but not cured.

Cystosarcoma phyllodes of the breast. C. D. Hafner, E. Mezger, and J. H. Wylie, Jr. *Surg., Gynec. & Obst.* 115:29, 1962.

Cystosarcoma phyllodes, especially its malignant variety, is a rare pathological entity. For the most part it is a benign disease. When malignant, it tends either to recur locally or to spread via the hematogenous route, primarily behaving as a sarcoma. The lungs and bone are favorite sites of metastases. Only one case of regional lymph node metastases has been reported in the literature as far as can be determined. These tumors appear to be sarcomas that develop in fibroepithelial tumors, and when they invade or metastasize, it is the mesenchymatous elements alone that are responsible. The epithelial elements play only a passive role and never appear in metastases. Therefore, it is our opinion that the treatment of choice for malignant cystosarcoma phyllodes is an extended "simple" mastectomy, in which a wide margin of tissue including the surrounding skin and underlying pectoralis major muscle is removed.

Hospital uses of Velcro. P. C. Hessburg. *Surgery* 52:345, 1962.

Occasionally a product is developed commercially which may be utilized in several areas of hospital practice. Polyethylene tubing is one such example. Another product which might have applications in a variety of hospital situations is a "touch and close" fastener called Velcro, consisting of two different types of nylon tape. On the one variety of tape there are many rows of tiny nylon hooks which become entangled in a loosely woven pile on the other tape. When placed in contact these tapes adhere tenaciously. Since any portion of the pile tape will be engaged by any section of the hooks, this material lends itself to situations requiring wide adjustability. Velcro, because of its adhesive tenacity, adjustability, and durability, lends itself to a variety of hospital applications. A sampling of devices which might utilize this material is envisioned.

Arrhythmias and conduction disturbances in acute myocardial infarction. T. N. James. *Amer. Heart J.* 64:416, 1962.

From a consideration of cardiac anatomy and pathologic electrophysiology, acute myocardial infarctions may be classified into three groups: anterior, lateral, and posterior. Arrhythmias and conduction disturbances are least common in patients with anterior infarctions, and most common in those with posterior infarctions. A review of the mechanisms involved suggests that infarction of the sinus node or A-V node and excess vagal discharge are the most important pathogenetic factors. A brief discussion of clinical management is based on these considerations.

Classification of triatrial hearts. T. N. James. *Anat. Rec.* 143:79, 1962.

A new classification is proposed for the triatrial heart (cor triatriatum). Type I, usually considered to represent stenosis of the common pulmonary vein, is the commonest. In Type II the third chamber is the distended coronary sinus, into which all the pulmonary veins

ABSTRACTS

drain; this is the second commonest. Both Type I and II appear as a "divided left atrium." Type III includes anomalies due to maldevelopment of the interatrial septum or venous valves, with production of a third atrial compartment within the right atrium; this is seldom a cul-de-sac, the anomalous wall usually being fenestrated. Type IV includes diverticula and aneurysms of the atria or the interatrial septum.

Roentgen diagnosis of cardiac competence. R. S. Ormond and W. R. Eyler. *Radiology* 79:378, 1962.

By utilization of the information available on the roentgenogram, an accurate impression is gained of the patient's physiologic status, which can be easily verbalized. It is not suggested that the findings be scored and substituted into a formula which in turn will produce a magic figure indicating the cardiopulmonary status. Rather, it is hoped that the roentgenologist can give a valued contribution to the practical clinical evaluation of the cardiac patient. If his findings are not in agreement with the clinical impression he should urge a more complete physiological study.

Surgical techniques for otological and auditory research. (Abstract of a motion picture). M. M. Paparella and A. Hohmann. *Ann. Otol.* 71:203, 1962.

The cat is a very useful animal for studies in otopathology, bioacoustics, and electrophysiology of hearing. There has been a surprising paucity of reference material which would be useful in designing and executing surgical procedures on the auditory system of the cat. This film demonstrates methods of animal care and surgical techniques for exposing several anatomical regions of the auditory system of the cat. The film is procurable on loan from the American Medical Association Motion Picture Library, 535 N. Dearborn St., Chicago 10, Illinois.

*Procedure for obtaining x-ray diffraction patterns of methacrylate-embedded specimens. J. Parsons, R. R. Cardell, Jr. and J. H. L. Watson. *Tr. Amer. Microscop. Soc.* 81:289, 1962.

Briefly, the procedure consists of dehydrating the specimen with ethyl alcohol, and embedding it in 3:1 butyl to methyl methacrylate, and cutting ultra-thin sections of the embedded material for study with the electron microscope. It was important to determine if the specimen underwent any molecular change during this preparation for ultra-thin sectioning; and it seemed reasonable that if x-ray diffraction patterns of the material before and after embedding in the methacrylate were obtained and compared, changes in the structure should be apparent. X-ray diffraction of unembedded crystals presented no special problem, but because of the inherent x-ray absorption and scattering properties of the embedding medium, x-ray diffraction patterns of methacrylate-embedded crystals were more difficult to obtain. It is the purpose of this report to describe a method for obtaining x-ray diffraction patterns of methacrylate-embedded specimens.

Complications following appendectomy for acute appendicitis in the aged. J. L. Ponka, N. Gilfillan and B. E. Brush. *J. Amer. Geriat. Soc.* 10:691, 1962.

Morbidity and mortality from acute appendicitis were studied in 189 patients aged 50 years or older. There were no deaths following the 180 appendectomies in this series. There was 1 death (due to aspiration pneumonitis) among the 8 patients in whom appendiceal abscesses were drained under local anesthesia. Another death occurred in a patient who was not operated on; she died from a cerebrovascular accident, and at autopsy was found to have appendicitis and peritonitis. The incidence of complications was high, mainly attributable to infection progressing beyond the appendix (42.2 per cent), but also the result of unrelated concurrent disease states (16.2 per cent). In 61 per cent of the cases, perforation of abscess was already present at the time of operation. An atypical history and clinical course should be expected in at least 50 per cent of elderly patients with appendicitis. Pain is usually present and well localized in the right lower abdomen. Difficulty in obtaining a good history may arise from the fact that geriatric patients often try to conceal their illnesses for various reasons

*Edsel B. Ford Institute for Medical Research.

ABSTRACTS

or try to avoid expensive hospitalization. Appendicitis still accounts for unnecessary mortality and morbidity among geriatric patients. Earlier diagnosis and careful treatment will result in a reduction of mortality and morbidity rates. Reduction in morbidity should be a "new frontier" in the treatment of appendicitis.

Skull surgery by prehistoric man. II. S. Podolsky. *Med. Ann. D. C.* 31:409, 1962.

Two of the earliest testimonies to the awakening of prehistoric man's mind and creative abilities are the drawings he painted in his caves and his first medical practice — cranial trephining during life. These practices originated in the Old World during the paleolithic and neolithic periods, respectively. Trephining was widely carried out throughout the ancient world, probably spreading from its original sites along the Mediterranean. It is generally believed that the operation was brought to America by way of Asia and then Alaska. It reached its highest development in Peru. Skulls were sawed, scraped, and sometimes drilled. The majority of those discovered show clear evidence of bone healing around the wound edges. In all probability the cases of survival made up at least two-thirds of all operations. Most skulls are from males, although both sexes and all age groups are represented. Multiple openings are frequently seen, especially in the Peruvian specimens. Often there was a therapeutic rationale behind them.

The role of basophilic granulocytes in ulcerative colitis. R. J. Priest and J. W. Rebusk. *Méd. et Hyg.* 20:365, 1962.

The technique of human skin windows has provided a new method to study the mechanism of diseases. When epithelium is scraped away from a small area of skin on the forearm, the lesion is stimulated with antigenic material and a cover-slip applied with adhesive. Cells of the inflammatory exudate migrate to the under-surface of the cover-slip and additional cover-slips are placed over the lesion at timed intervals. The preparations are air-dried and stained like blood smears. In this way a series of permanent slides are secured to study a sampling of cellular exudates in controls and in ulcerative colitis. The role of the basophilic granulocyte in ulcerative colitis remains incompletely understood. Basophil exudation in 26 of 41 patients studied by skin window technique suggested a possible implication of histamine, heparin, and chymotrypsin to the biochemical riddle of ulcerative colitis.

Clinical training in peripheral vascular diseases. I. J. Schatz. *Amer. Heart J.* 64:136, 1962.

Greater and greater emphasis on the chronic vascular diseases is inevitable as our older age group in the general population increases in number. The need for physicians qualified to care for these patients will increase. Internists must become as competent in handling these problems as they are now in treating congestive heart failure.

Electrocardiographic changes associated with gastroscopy. B. M. Schuman and H. Gale. *Bull. Gastroint. Endosc.* 8:10, 1962.

This study demonstrates that electrocardiographic changes are not an uncommon accompaniment of gastroscopy. These changes, however, are of a transient nature. No permanent damage to the myocardium was indicated by follow-up electrocardiogram or serum glutamic oxaloacetic transaminase determinations.

Abdominal aortography. D. E. Szilagyi, R. F. Smith, A. J. Macksood and W. R. Eyer. *Arch. Surg.* 85:25, 1962.

In order to obtain a more precise idea of the risk of abdominal aortography, as well as of other types of angiographic examinations, the clinical histories were surveyed in detail in 1,502 cases in which 3,379 such studies had been made. The incidence of minor, major, and fatal complications was counted and correlated with a wide array of factors with bearing on operative hazards such as operative technical details, type and amount of contrast medium.

ABSTRACTS

and type and duration of anesthesia. It was found that: The incidence of serious complications (0.36%) and fatalities (less than 0.03%) was within the range acceptable for major diagnostic procedures. Virtually all the serious incidents that occurred could have been prevented by awareness of the potential dangers of the method, by fastidious case selection, by the observance of some simple but inviolable precautions with respect to technical detail, and by the availability of mechanical equipment permitting sequential multiple exposures. Lumbar aortography is not only a most valuable diagnostic tool, but, when performed under appropriate safeguards (which, it must be stressed, is within the reach of anyone), is free from undue risk.

*Electron microscopy of single inorganic colloidal crystals, sectioned and unsectioned. J. H. L. Watson. Proc. Fifth Internat. Congress for Electron Microscopy, New York, Academic Press, 1962.

Experimental results are reported for two tactoid-forming colloidal crystal systems grown in aqueous solution. These systems are $\text{WO}_3 \cdot x\text{H}_2\text{O}$ from hydrolyzing NaWO_4 , and β FeOOH from the hydrolysis of FeCl_3 . The observations are derived from a variety of studies by electron diffraction and involve bright and dark field electron microscopy of specimens containing both whole and ultra-thin sectioned single crystals.

*Edsel B. Ford Institute for Medical Research.

HENRY FORD HOSPITAL MEDICAL BULLETIN

Published quarterly by the Professional Staff of the
Henry Ford Hospital and the Edsel B. Ford Institute for Medical Research

PUBLICATIONS COMMITTEE

PHILIP J. HOWARD, M.D., *Chairman*

PAUL R. DUMKE, M.D.

W. L. MORGAN, JR., M.D.

DAVID L. EVERHART

JOHN W. REBUCK, M.D.

WILLIAM E. LOECHEL

LEE B. STEVENSON, M.D.

MARY E. MCNAMARA

D. EMERICK SZILAGYI, M.D.

JOHN H. L. WATSON, Ph.D.



Vol. 10, 1962

