Publications of the Staff of the Henry Ford Hospital and the Edsel B. Ford Institute for Medical Research
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Titles and Selected Abstracts
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Sera from patients with pulmonary emphysema had been reported by author Ablin as having demonstrated the speckled and nucleolar nuclear immunofluorescent patterns. These two patterns had previously been found to be mainly confined to scleroderma. With the recent identification of several new nuclear immunofluorescent patterns, many of which did not have such a correlation with a specific disease, the authors wished to determine whether the sera, from the patients with pulmonary emphysema reported as initially showing the speckled nucleolar patterns, might instead contain ANA responsible for some of these newer and less disease-specific patterns. One serum that had been reported as showing the speckled and nucleolar patterns with anti IgG and anti IgM, respectively, demonstrated sparse small nodules. The other serum previously classified as showing speckles with anti IgM demonstrated large nodules. These findings illustrate the importance of distinguishing these newer patterns not associated with specific diseases from the older classical patterns where close diagnostic correlations do exist.


Twenty-one atopic children were treated with Alternaria hyposensitization therapy. Leukocytes from these children were cultured with and without Alternaria and phytohemagglutinin prior to treatment, and after 6 and 12 months of treatment. Patients demonstrating positive immediate cutaneous hypersensitivity showed significant lymphocyte transformation prior to hyposensitization whereas the skin test-negative patients did not. The skin test-negative patients developed significant lymphocyte transformation after 6 months of hyposensitization. Twelve months after the initiation of therapy both skin test-negative and skin test-positive patients showed a decreased lymphocyte reactivity, and there was no longer any significant change in the concomitant phytohemagglutinin responses indicating that hyposensitization had a specific effect on alternaria-induced in vitro lymphocyte reactivity. Plasma factors were found to have modulating effects on the lymphocyte reactivity of hyposensitized patients.


LE and tart cells were demonstrated in a black male infant whose serum contained milk-percipitating antibodies and who had pulmonary infiltrates. Immunoblasts, plasmacytoid lymphocytes, and an LE cell were found in milk-stimulated skin window. The
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presence of LE cells corresponded to the presence of ENA antibody. Tert cells varied with oral milk challenge. A large Arthus type of skin reaction to injected milk was demonstrated. An oral feeding of milk resulted in a decrease in plasma C3. Lymphocyte transformation resulted from in vitro milk stimulation. ENA (extractable nuclear antigen) antibody and resulting LE cell formation possibly represented the combination of nuclear protein with milk antigen. The pulmonary infiltrates may represent a hypersensitivity pneumonitis characterized by both Arthus and cell-mediated reaction to milk.


The results of peritoneoscopy in 119 patients of advanced age are described. The procedure permits thorough inspection of the entire abdominal cavity and, in association with guided biopsy, leads to early diagnosis in patients with suspected carcinoma, ill defined chronic liver disease or ascites of undetermined etiology. The relative lack of serious complications makes this procedure feasible in patients of all ages.


A review of 34 patients who had undergone intestinal shunts for severe, intractable obesity revealed a 32.4% incidence of renal calculi. The incidence of calculi was greater in those who had undergone jejunoileostomy rather than jejunocolostomy. All of the stones analyzed, with the exception of one, were calcium oxalate. Urinary oxalate levels were determined in 14 patients, and these averaged twice those in normal patients, a possible indication that this might be a contributing cause in some patients. Other factors contributing to calcium oxalate stone formation are discussed. Like all previous investigators, in the final analysis, the authors still cannot say why some patients form stones and some do not. In selecting patients for intestinal bypass, the surgeon should consider the complication of renal calculous disease, particularly in those with a past history or family history of urinary tract calculi.


The clinical characteristics, surgical treatment, and therapeutic results were surveyed in 11 cases of aortoenteric and 8 cases of paraprosthctic-enteric fistulas observed in 2,085 abdominal aortic reconstructive operations. The clinical manifestations of these lesions were exsanguinating hemorrhage or medically uncontrollable retroperitoneal sepsis. The diagnosis of aortoenteric or paraprosthctic-enteric fistulization must be assumed in every case of abdominal aortic reconstruction with late hemorrhagic or septic complications. The treatment is early and aggressive surgical intervention supported with appropriate antibiotic medication. Some operative technical details appear useful in reducing the probability of occurrence of these complications.


Recurrent bouts of atrial flutter with rapid ventricular response were noted in a patient with mild mitral stenosis and multiple drug intolerance to quinidine, procainamide, and propranolol who required frequent cardioversions. Large doses of digitalis failed to convert the rhythm to a more stable chronic atrial fibrillation. The incapacitating episodes of atrial tachyarrhythmia were successfully terminated following a surgical ligation of the AV conduction system and the implantation of a permanent left ventricular pacemaker.
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Gastrointestinal hemorrhage in the elderly is described under the headings: 1) a single episode of hematemesis, melena or rectal bleeding, 2) active persistent bleeding, 3) slow persistent bleeding, and 4) periodic bleeding. Illustrative cases are presented. Although the signs and symptoms are sometimes misleading, a careful history and examination will suggest the diagnosis in 70% of cases. However, sometimes it is very difficult to locate the bleeding point preoperatively. Endoscopy, radiography and angiography are valuable aids. Initially, it is important to learn whether the hemorrhage comes from the upper or the lower gastrointestinal tract, as the selective diagnostic and surgical procedures differ. In all cases the effective management of major gastrointestinal hemorrhage requires rapid identification of the source of bleeding.


Self-determined home blood pressure readings taken by 112 patients with borderline hypertension were compared to values of 49 normotensive controls. Thirty per cent of patients with borderline hypertensive readings in the clinic were hypertensive at home; only 28% of patients were clearly normotensive. Clinic blood pressure levels, family history, body weight, and heart rate failed as predictors of which patients were likely to be hypertensive at home. Self-determined home blood pressures are suggested for identification of individual patients with borderline hypertension who require continuous and close observation. It is usually presumed that patients who exhibit tachycardia in the office are anxious and have normal blood pressures at home. The data in this study does not support this attitude.


Fluorine-18 is well suited for studying skeletal diseases. Because this radionuclide has a short half-life, low radiation dosage, excellent uptake by bone and rapid urinary excretion, it has considerable potential application in orthopedics. Uptake patterns indicate that most displaced femoral neck fractures are associated with a significant degree of avascularity which improves within 6 to 8 weeks after injury. Undisplaced fractures seem to maintain their vascular integrity. Non-traumatic aseptic necrosis of the femoral head has been characterized by increased uptake presumably secondary to reparative changes. Infections of bone and joint demonstrated increased uptake before radiographic signs allowing earlier localization and confirmation of the diagnosis. Of greater usefulness in clinical interpretation of 18F scans is that the technique seems to effect bone perfusion independent of histologic bone formation.


Four patients with a primary histological diagnosis of Bowen disease of the nail bed were treated by the Mohs chemosurgery technique. The presence of invasive squamous cell carcinoma was disclosed during chemosurgery in three cases. The fourth case had already progressed to invasive squamous cell carcinoma before treatment. It is urged that biopsies be performed in all cases of persistent and recurrent disease of the nail bed so that an early diagnosis may be made and treatment instituted before the development of invasive carcinoma. Mohs chemosurgery permits adequate excision of the tumor with maximal preservation of normal tissue and function.
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The authors' department used rolled homologous sclera as buckling material in retinal detachment surgery over a five-year period in 274 retinal detachment operations. There was infection or graft rejection in three of the 274 procedures. The final success rate was 93% in a subgroup of 106 eyes. They have successfully used rolled homologous sclera to replace infected silicone sponge material in two cases. Because of the high success rate, the low incidence of infection or extrusion, and the freedom from other local complications, this technique is now used almost exclusively when doing local buckling procedures. Experience with this technique has led to the conclusion that rolled homologous sclera is a safe, well-tolerated, and effective buckling material in retinal detachment surgery.


This is the first of a series of questions being asked by Research/Development for its section on Vacuum Technology. The explanation is by the author who is former president of the International Union for Vacuum Science, Techniques and Applications (IUVSTA), an international confederation of national vacuum societies made up of 21 national scientific groups, including the American Vacuum Society. Mr. Preuss is head of the radiation physics and nuclear spectroscopy division, Department of Physics and Biophysics, Edsel B. Ford Institute for Medical Research.


A two-year double-blind study was made of gold salt treatment in 27 patients who had active rheumatoid arthritis for less than five years. The gold salt (gold sodium thiomalate) was well tolerated in 13 of 15 patients. Improvement, measured by physical examination, ring sizes, and grip strength, was significant in the treated group. Radiologic examination showed that the bone and cartilage destruction was arrested in several patients, and the mean progression rate of destruction was significantly slowed for the treated group.


A survey was made of 268 patients with 285 penetrating wounds of the limbs and neck seen during 1968 to 1973 in whom arterial damage was suspected. The principal problem in the management of these injuries was the decision regarding the need for surgical exploration. Physical signs were often inconclusive, so that in about half the cases angiographic examination was required to assure the avoidance of needless exploration. Angiography was also needed in some cases to locate precisely the site of arterial injury. The functional results of the surgical treatment of these wounds depended primarily on the outcome of the handling of the local (principally bony and nervous) associated nonvascular injuries.


When is radiographic distortion of the gastric antrum not due to disease at all? In half the cases, say these authors, thorough endoscopy can dispel the fear of the "phantom antrum."
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Aberrations in leukemic cells similar to the Pelger-Huet anomaly and the May-Hegglin anomaly have been described, but generally leukemic morphologic variations are individually bizarre. We report for the first time two patients with acute myelomonocytic leukemia in whose leukemic cell line morphologic abnormalities closely mimicked the Chediak-Higashi anomaly. Of our leukemic patient, one died after 6 weeks, with evidence of uncontrolled infection in lungs and urinary tract, and probable septicemia. The second patient attained complete hematologic remission with chemotherapy, but not before two separate episodes of septicemia, due to Klebsiella species and *Pseudomonas aeruginosa*. The leukocyte anomaly disappeared after remission was attained. It is suggested that the lysosomal abnormality known to result in poor granulocyte function in the inherited disorder also does so in the acquired state, pseudo-Chediak-Higashi anomaly associated with leukemia.


The prognosis of 67 patients with malignant hypertension whose treatment began in the division of hypertension of Henry Ford Hospital from 1952 to 1961 was assessed. In order to evaluate the effect of the addition of guanethidine and sulfonamide saluretics in 1958, the cases were separated into two groups: one starting treatment from 1952 to 1957 and the other from 1958 to 1961. In the 1952-1957 group, the five-year survival rate was 12% (5 of 42), whereas in the guanethidine plus thiazides or chlorthalidone-treated group (1958-1961), it was 72% (18 of 25). There was inverse relationship between the degree of azotemia and years of survival. In severe azotemia, the prognosis in both groups was grave. In mild azotemia, the survival in the group treated with guanethidine plus thiazides or chlorothalidone was surprisingly good. In the majority of the patients of the 1958-1961 group, a significant reduction in blood pressure (from 253/147 to 166/98) and retinopathy was seen; there was also a regression in proteinuria and left ventricular hypertrophy, whereas the effect on serum creatinine was less favorable. An effective therapeutic approach in the treatment of malignant or severe hypertension by titrating the dosage of guanethidine has been outlined.


Some mammalian carcinogens and their metabolites affect the viability of *Salmonella typhimurium* strains, as indicated by a decrease in colony formation, and also induce prophage. The authors determined the minimum concentration required for prophage induction and the maximum prophage induction frequency for each carcinogen. The latter value was determined by the ratio of the number of induced phage particles relative to that of spontaneously induced phage particles in the controls. This value is constant for each carcinogen, regardless of its concentration. Since damage of the bacterial genome results in prophage induction, the reactivity of each compound with the genome may be indicated by the minimum concentration required for prophage induction and the maximum frequency of prophage induction. Carcinogens unable to affect bacterial viability are also unable to induce prophage. Failure to induce prophage indicates a requirement for metabolic activation by mammalian enzymes. Interaction of these carcinogens with free phage particles *in vitro* was used as an index of direct interaction of carcinogen with DNA. Among 16 compounds tested, six had a direct effect on the phage genome, resulting in loss of phage viability. Five of these six compounds are hydroxylated compounds, and the other is N-acetoxy-2-acetylaminofluorene. From these observations it may be concluded that these six compounds are reactive with genomes without further metabolism.

Five prepubertal growth hormone-deficient children were treated with oxandrolone (0.1 mg/kg/day) and human growth hormone (HGH) 2 mg three times weekly alone and in combination. Average nitrogen retained (mg/kg/day) was calculated from 9-day balance data obtained at the beginning and end of each 6-mo treatment period. Oxandrolone increased the range of nitrogen retention from control values of 2.5-50 to 20.4-107.1, which was statistically significant. Persistently increased nitrogen retention was demonstrable at the end of 6 mo of oxandrolone therapy. Addition of HGH further enhanced the anabolic effect (67.7-139.3), which also was statistically significant and persistent to the end of 6 mo of combination therapy (57.4-114.3). Despite continued HGH treatment withdrawal of oxandrolone was associated with a drop to pretreatment values by the end of 6 mo (0.8-38.4). Oxandrolone and HGH have synergistic anabolic effects which probably involve different mechanisms. During some balance periods, nitrogen retention was calculated by determination of $^{15}$N excretion after oral administration of labeled glycine. Results were similar but lacked statistical significance. The smallest increment in height for 1-yr advancement in bone age while receiving oxandrolone was 2.17 inches.

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