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Publications of the Staff

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Edsel B. Ford Institute for Medical Research

Titles and Selected Abstracts
Edited by G. B. Bluhm, MD

Antinuclear antibodies. II. The prognostic significance of nuclear immunofluorescent patterns in lupus erythematosus. K. Burnham. *Arch Derm* **111**:203-7, 1975.

Nuclear immunofluorescent patterns in lupus erythematosus (LE) were correlated with the clinical picture. Patterns were classified into three groups of prognostic significance: (1) Poor—Shrunken peripheral fluorescence was found in patients with severe systemic lupus erythema-

tosis (SLE), 60% demonstrating renal involvement. (2) Intermediate—This included the peripheral and thready patterns associated with 33% renal involvement in patients with SLE. (3) Good—Large and small speckle-like threads were seen in cases of very benign LE.

Changes in left ventricular wall dimensions during regional myocardial ischemia. S. Goldstein and J. W. de Jong. *Cardiology* **34**:56-62, 1974.

The relation between changes in left ventricular wall systolic thickening and other measures of left ventricular function were studied during regional ischemia in 14 open chest pigs. A fixed decrease in coronary peak blood flow from 46 ± 5 (standard error) to 13 ± 2 ml/min was produced, using a screw clamp and flow probe placed around the left anterior descending coronary artery. Myocardial wall thickness was measured with a calibrated harpoon mercury strain gauge placed through the apical portion of the left ventricle and recorded continuously with left ventricular systolic pressure, the first derivative of left ventricular pressure rise (dp/dt) and pressure-derived peak velocity of contraction. During systole, the left ventricle thickened by 10.7 ± 2.1

percent of its total average thickness of 12.7 ± 0.7 mm. Within six seconds of the onset of ischemia, total myocardial wall thickness decreased from 1.356 ± 0.135 to 0.592 ± 0.081 mm ($P < 0.001$) or to 45.2 ± 5.1 percent of the control value. During ischemia, changes were noted in both the isovolumic and the ejection phases of systole in addition to left ventricular wall thinning of 0.282 ± 0.02 mm at end-diastole. There was no significant change in left ventricular pressure or its derived values. In two experiments, isolated wall thickness alternans was observed. These studies indicate that myocardial wall thickness is more sensitive than ventricular pressure as a measure of local changes in myocardial function during regional myocardial ischemia.

Abstracts

Purine nucleoside efflux during myocardial ischemia in the pig. S. Goldstein and J. W. de Jong. *Basic Research in Cardiology* 69:361, 1974.

Concentration of whole blood inosine and hypoxanthine was studied in the regional coronary vein in six pigs during a 20-minute period of myocardial ischemia. The concentration of these purine derivatives was compared to changes in the concentration of whole blood lactate, plasma potassium and to change in myocardial wall systolic thickening (MWT). Partial occlusion of the left anterior coronary artery was produced by placing a screw clamp around the anterior coronary artery. Coronary blood flow was measured using an electromagnetic flow probe. During the ischemic period, average flow was decreased to 28.6% of control. MWT was measured by using a harpoon-type mercury strain gauge and was observed to decrease to $42.3 \pm 14.5\%$ (SE) of control during ischemia ($P < .0005$). Within two minutes the venous concentration of inosine increased from $9.8 \pm 0.6 \mu\text{M}$ to $20.0 \pm 4.3 \mu\text{M}$

($P < .0025$), hypoxanthine increased from $26.0 \pm 1.3 \mu\text{M}$ to $30.6 \pm 2.9 \mu\text{M}$ ($P < .10$) and lactate increased from $0.79 \pm 0.04 \text{ mM}$ to $1.17 \pm 0.26 \text{ mM}$ ($P < .025$). Venous concentration of potassium and the arterial concentration of the four metabolites did not change significantly. Venous inosine concentration remained significantly elevated during the entire period of ischemia and MWT remained decreased throughout the period. Although lactate and hypoxanthine were elevated at the two-minute period, their concentrations gradually decreased during the remainder of the ischemic period. Inosine returned to normal levels upon reinstatement of coronary blood flow and MWT returned to $75.5 \pm 10\%$ of control. In these studies, venous inosine concentration appeared to be a sensitive measure of myocardial ischemic metabolism.

Endobronchial lipoma associated with squamous metaplasia of bronchial mucosa. M. Hakimi, D. Font-Soto, L. Gonzalez-Lavin and J. C. Davila. *Mich Med* 74:129-131, 1975.

A case of endobronchial lipoma associated with squamous metaplasia of endobronchial mucosa is reported bringing the total number of published cases in literature to 58 and the number of cases reported in English literature to 34.

The paper also reviews the literature and outlines the diagnosis and management of the disease. Bronchial lipomas are among the least common neoplasms of the tracheobronchial tree.

Pharmacokinetics of furosemide in advanced renal failure. Chia M. Huang, A. J. Atkinson, Jr., M. Levin, N. W. Levin and A. Quintanilla. *Clin Pharmacol Ther* 16:659-66, 1974.

The pharmacokinetics of furosemide were studied in 12 patients with advanced renal failure. The elimination half-life of furosemide averaged 9.7 hours. Renal furosemide clearance was reduced, but furosemide elimination by nonrenal mechanisms was unimpaired in uremic patients without liver disease and accounted for 86% to 98% of total elimination. Nonrenal furosemide clearance also was reduced in three

uremic patients with liver cirrhosis, and elimination half-life was prolonged to 20 hours in one of these patients. The diuretic response to intravenous furosemide appeared to be adversely affected by poor renal function and dehydration. Diuretic response was always less after oral than after intravenous furosemide, and the slow, intravenous infusion of this drug is recommended for maximal efficacy in uremic patients.

Changes in coronary venous inosine concentration and myocardial wall thickening during regional ischemia in the pig. J. W. de Jong and S. Goldstein. *Circ Res* 35:111-16, 1974.

Correlations between local mechanical and metabolic events were studied during a partial decrease in flow in the left anterior descending

coronary artery in 14 open-chest pigs. A decrease in flow to 28% (19-39%) of the control value was achieved with an adjustable screw clamp. A flow

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probe was placed around the artery. Blood samples were taken from the regional anterior coronary vein and the femoral artery. Myocardial wall thickening was measured with a harpoon type of mercury strain gauge. During ischemia, systolic myocardial wall thickening decreased to $44.5 \pm 5.1\%$ (SE) of its control value ($P < 0.001$). The mean concentrations of plasma potassium and whole blood inosine, hypoxanthine, and lactate in three serial two-minute samples obtained during a six-minute control period were compared with those obtained during a six-minute period of partial occlusion. During ischemia, venous inosine concentration increased from $10.9 \pm 0.7 \mu\text{M}$ to $18.5 \pm 1.8 \mu\text{M}$ ($P < 0.005$), venous hypoxanthine concentration increased from $28.5 \pm 1.4 \mu\text{M}$ to $33.0 \pm 1.5 \mu\text{M}$ ($P < 0.005$), venous

potassium concentration increased from $3.77 \pm 0.10 \text{ mM}$ to $4.08 \pm 0.13 \text{ mM}$ ($P < 0.001$), and venous lactate concentration increased from $1.04 \pm 0.19 \text{ mM}$ to $1.52 \pm 0.17 \text{ mM}$ ($P < 0.001$). The arterial level of potassium increased very little. The arterial concentration of the other compounds did not change significantly during the six-minute period of ischemia. Myocardial lactate extraction changed from a control value of $42.6 \pm 6.7\%$ to $-4.6 \pm 12.5\%$ ($P < 0.05$). A negative correlation ($r_s = -0.79$, $P < 0.01$) was observed between venous inosine concentration and myocardial wall thickening (percent of control) during ischemia. This study indicates that the local venous inosine concentration is a sensitive indicator of regional myocardial ischemia in the pig.

Left main coronary artery lesions. Risks of catheterization; exercise testing and surgery. F. Khaja, S. D. Sharma, R. M. Easley, Jr., R. A. Heinle, and S. Goldstein. *Circulation* **49-50**, supp II:136-40, 1973.

A retrospective analysis of 28 patients with angiographically documented left main coronary artery lesions revealed that the majority of these patients had crescendo angina (23/28), dyspnea associated with angina (11/18), and significant ($\geq 2 \text{ mm}$) S-T depression during treadmill exercise testing. Involvement of other major vessels with stenotic lesions was common. There were no deaths or myocardial infarctions secondary to

catheterization procedures. Revascularization surgery together with ventricular aneurysmectomy carried a risk of 28% mortality as against 16% in patients not undergoing aneurysmectomy. Postoperatively there was significantly improvement in symptoms and stress electrocardiograms. The combined early and late graft patency rate was 84%.

Panniculectomy following intestinal bypass. W. Peter McCabe, Alex P. Kelly, Jr., and Boy Frame. *Brit J Plast Surg* **27**:345-51, 1974.

As 100 or more pounds is lost in a period of a year or so, many patients are left with large folds of loose fat and skin over the abdomen, the inner arms, and the thighs. This may be quite uncomfortable to the patient and may require various types of plastic surgery. This report consists of 11 patients who have undergone various types of panniculectomy following intestinal bypass.

Proper timing of plastic reconstruction is essential. Once the weight loss is stabilized, the patients generally tolerate surgery very well. Plastic surgery in these individuals provides an acceptable body contour, improved body image and improved comfort. This surgery can be an essential step in returning the intestinal shunt patient to a more normal life style.

Immunoglobulin and dextran losses during peritoneal dialysis. E. M. McKelvey, H. H. Yeoh, G. A. Schuster, B. Sharma, and N. W. Levin. *Arch Intern Med* **134**:266-69, 1974.

Losses of immunoglobulins were measured in ten patients undergoing peritoneal dialysis. Mean immunoglobulin losses per 80 liter dialysis were as follows: IgG 17.9 gm, IgA 3.8 gm, and IgM 0.78 gm. Bleeding during dialysis generally accounted for less than 10% of these losses. IgA/IgG and IgM/IgG ratios in dialysate and serum were similar suggesting that the peritoneal membrane is permeable to higher molecular weight mole-

cules. This was confirmed by the demonstration of peritoneal permeability to dextrans of greater than 150,000 molecular weight. In the absence of compensatory increases in synthesis, losses of immunoglobulins of the magnitude described in patients on chronic peritoneal dialysis programs could result in hypoglobulinemia and altered host resistance.

Abstracts

Bone mineral (apatite) assay by photon scattering. A survey of sources and experimental evaluation. L. E. Preuss, D. G. Piper and C. Bugenis. *Advances in X-Ray Analysis* **18**, 1974.

Current methods of measuring bone mineral content in vivo are either inaccurate or measure density in non-intuitive units. A recently developed system overcomes these difficulties by utilizing the Compton scattering of photons from bone. Two sources of monoenergetic photons with related properties are required. The range includes energetic x-rays and low energy gamma

rays. This study analyzes a number of the possible nuclide source combinations, and reports experimental results accomplished with a ^{153}Gd - ^{170}Tm combination. In vitro measurement of the density of ox bones by this method agreed with Archimedean measurements within three percent.

^{18}F Scintigraphy of non-neoplastic skeletal lesions—A preliminary report. A. T. Vulpetti, J. McGrail, L. Z. Shifrin. *Clin Orthop* **101**:292-8, 1974.

The effectiveness of ^{18}F as a diagnostic method to detect neoplastic skeletal involvement in the presence of negative or equivocal roentgenographic findings prompted the present study of fractures of the femoral neck, non-traumatic aseptic necrosis of the femoral head and infections of bone and joints.

^{18}F is taken up by ionic change on the surface of the calcium apatite crystals in newly-formed bone. The degree of activity is primarily dependent on vascular perfusion to the area. After 1 mCi of carrier-free sodium fluoride in a physiological saline solution is administered intravenously, an anterior and posterior scan of the pelvis and spine is performed 90 minutes later. A rectilinear scanner with a 3-inch Na I (TI) crystal and a 19-hold focusing collimator is used.

Preliminary results demonstrate the vascularization of the femoral head following neck fractures (displaced, 13 or undisplaced, 8) to be disrupted. Visual interpretation of the ^{18}F scintiscans indicates frequent decrease in vascularity by the second week after fracture in both groups. Revascularization appears rapidly except in most cases of displaced fractures.

Evaluation of 23 patients with non-traumatic aseptic necrosis of the hip showed a reliable correlation between degree of symptomatology and ^{18}F uptake in the joint area. Thirteen patients were evaluated for possible bone and joint infection. Diagnostic work-up included x-rays, appropriate cultures and in several cases, biopsies. The method is particularly useful in the acute cases prior to roentgenographic changes.

Nitrogen metabolism in growth hormone-deficient children receiving oxandrolone and human growth hormone. M. S. Zafar, R. C. Mellinger, C. Wolf, L. B. Morrow, C. Whitten, D. DeJongh, and E. Hills. *Metabolism* **23**:239-47, 1974.

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 nine-day balance data obtained at the beginning and end of each six-month 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 six months 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 six months 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 six months (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 one year advancement in bone age while receiving oxandrolone was 2.17 inches.

Advice to Authors

Henry Ford Hospital Medical Journal

The Editorial Board of the Henry Ford Hospital Medical Journal welcomes papers for review and possible publication from any former or current staff member of the Henry Ford Hospital or the Edsel B. Ford Institute for Medical Research. The Journal provides a rapid means of publication of papers covering a broad spectrum of interests including case presentations, scientific experimental studies from either basic or clinical research science laboratories, preliminary communications, and papers philosophically oriented.

Style of writing should conform to good English usage and be clear, readable and optimally brief. Within these limitations individuality will not be discouraged. Certain conformities are essential for a good journal and the ones expected here are as follows:

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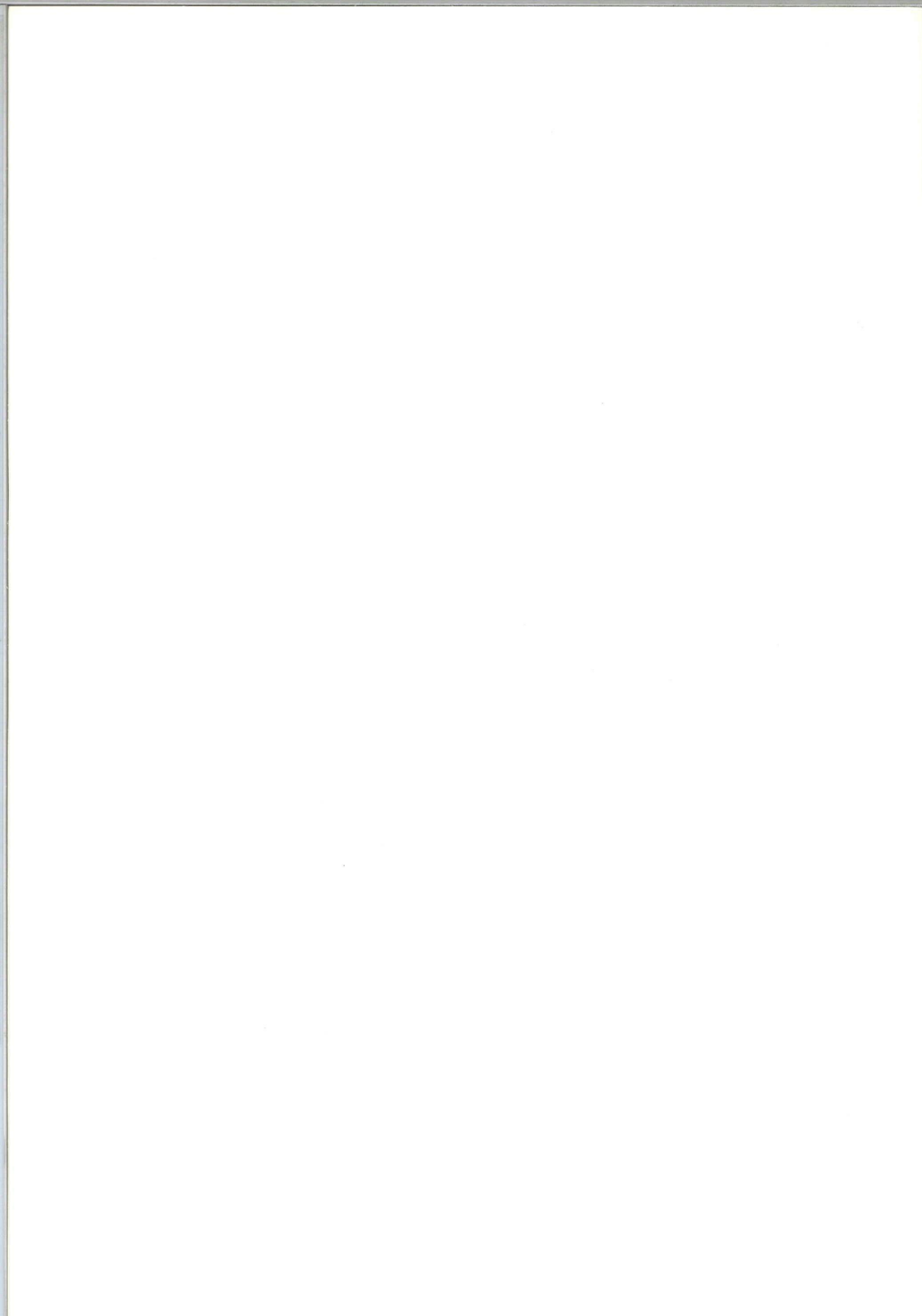
1. Swinger GA, and Quince PD: Oxadelic levels in the newt bladder, and their clinical significance. *Ann Sci*: **42**:103-10, Mar 1967
2. Burns JG: *Principles of Dermatology*, ed 3. New York, McGraw-Hill, 1968, pp 31-44

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