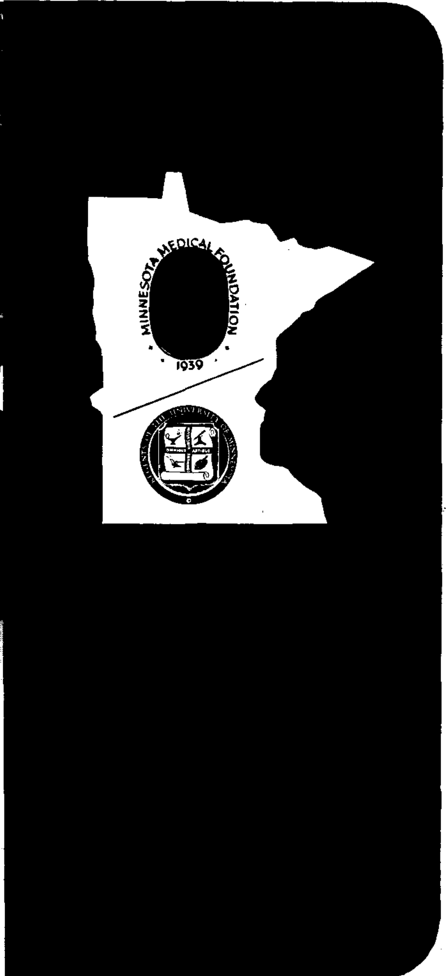
MEDICAL BULLETIN



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THE UNIVERSITY OF MINNESOTA MEDICAL BULLETIN

W. ALBERT SULLIVAN, JR., M.D., EDITOR / EIVIND O. HOFF, JR., EXECUTIVE EDITOR

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Cover: *Graduation is a timeless moment for nearly everyone from the recent high school graduate to the highest degree holder. Graduation from Medical School is an unforgettable highlight in a person's development. This year's graduating class was the largest in Medical School history, 162 strong.*

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Commencement

The Class of 1969

THE light rain and mist that fell on Commencement ceremonies June 6-7, 1969 had little if any effect on the spirit of the *largest graduating class* in Medical School history. Commencement ceremonies etched an ineffaceable mark on the memory of these young doctors, for the arduous educational process (21 years or more) came to a momentary halt. These graduates shared with their families, friends and teachers the recognition that they were now doctors and no longer medical students.

During Graduation Week, the seniors enjoyed a round of social events. They had a picnic with their families, and the Phi Chi Fraternity wives displayed their prowess by winning a softball game. This year's golf tournament honors went to Frank Martin, and a handball tournament was won by Bob Koshnick, though he may have had a slight advantage, for tournament competition was old hat to Bob. He was All-University table tennis champion for 1968-69. These social events were replete with fun and frivolity. Yet, it is Recognition Day which climaxes the years of the *labor that was not always a love; the hours of preparing for exams, observing and caring for patients, and working in the clinics.*

RECOGNITION DAY will be long remembered. Here, the graduates are honored as a part of a prestigious profession.

Following the Cap and Gown processional, the graduates marched into the vast Northrop Auditorium. During the ceremonies this thought surely crossed many minds; **I faced the challenges of a difficult initiation rite, and I am now a part of the Medical profession.** Nearly 1300 guests observed the ceremony, and in a certain sense, the wives and parents were distinguished also, for without their patience during the years of study it would have been an even more difficult task for the graduates. At last, the goal was attained.

Dean Robert B. Howard welcomed the students. He cautioned them concerning the gravity of the present era of medicine. He stressed that this was a period of great ferment in medicine as well as in society. He appealed to the students' sense of societal responsibility, when he stated, *"All of us must be attuned to the sounds of our time. If we fail to respond to our role with the disadvantaged and other urban problems, the structure of society*

will be further weakened." Dean Howard placed the mantle of responsibility on the Class of '69.

Dr. H. Mead Cavert, Associate Dean of the Medical School, presented the Class of 1969. Robert J. McCollister and W. Albert Sullivan, both Assistant Deans of the Medical School, joined Dr. Cavert in presenting the class. Paul M. Spilseth, president of the Class of 1969, gave the class response. Dr. Raymond Bieter, retiring Director of Special Educational Services led the class in the *Declaration of Geneva.* Dr. D. R. Gillespie, President of the Minnesota State Medical Association, presented the Distinguished Teaching Awards of the *Minnesota Medical Foundation* to Dr. John P. Brantner and Dr. William J. Riley.

A Student Speaks Up

With the formal part of Recognition Day concluded the graduates, their families and friends adjourned to the *Dean's Reception.* The student lounge of Coffman Memorial Union provided a fitting place for an informal gathering and celebration. Though the rain and mist continued, happiness radiated from the faces of many proud new doctors and their families. Adieu! to the Medical School and on to internship and years of successful practice and research endeavors.

The Communities, Doctors, and the University

I AM pleased to have the opportunity to speak to such a distinguished group as this. In the next ten minutes, I should like to briefly review the present state of communities, doctors and the university and then broadly sketch my personal aspirations for what the future can bring.

Let us first consider our communities. Being from a small town, I have some personal experience with this aspect of the American heritage. The day of distinctly separate social-geographic communities is largely behind us. Communications and transportation have blurred most of the boundaries: *regionalization is the order of the day.*

Many communities are facing the prospect of losing their doctors or are already learning to live without them. Most communities express strong interest in a return to the horse and buggy country doctor, who knew everyone and was always available. Communities hold their own doctors in high regard, *but there is widespread disillusionment with doctors in general and with organized medicine.*

Patients are increasingly knowledgeable about and demanding of medical care. They often equate quality of care with personal convenience. They obtain much of their medical information from popular magazines and newspaper stories. Legislators responsive to their constituencies are translating increased expectations for health care into law, with legislation such as Medicare, Medicaid, the food stamps program and the Maternal and Infant Care projects.

Let us shift our focus briefly. Since I am still about 48 hours from losing my position as a medical layman, I shall attempt to speak as an outsider and with some degree of objectivity. I see the doctor's life as increasingly hectic, with greater numbers of patients and problems on the one hand and expanding diagnostic and therapeutic knowledge on the other.

Recent court decisions indicate that the proper arbiter of the individual physician's competence is no longer the previously sacred standard of care in the immediate area, but that the criteria are the same for the doctor in the smallest village and the largest metropolis. This requires more study just to keep up. But an overwhelming majority of practicing physicians have no contact with the university medical centers other than through occasional referrals or visits for brief lecture series.

The system of rewards, in terms of both prestige and income. serves the interests of the physician who manages the medical catastrophe rather than the physician who averts it. Public health has been relegated to a position below that of "real" medicine. In short, the medical profession is by and large oriented toward disease rather than health care.

Now let's turn our attention toward the *university medical centers*. Since I have had only minimal contact with centers other than ours at Minnesota, you may safely assume that my statements are generally derived from my experience here. These university medical centers have established a tradition of good medical care for patients referred there, a tradition they continue to uphold. Faculty divide their time among patient care, teaching and laboratory research.

Medical students spend considerably more of their time with interns and residents than with university staff. These interns and residents, with all of their experience in the university setting, are accustomed to caring for a limited number of patients with a limited number of problems. under careful supervision, with

virtually unlimited technical and consultative resources and with little concern for expense.

As they diagnose and treat patients referred to the university by practicing physicians both they and the medical students observing them begin to consider the referring physician as not quite up to their level.

The university reinforces the prestige of massive medical intervention, for that is what the teaching hospital is best equipped to do. The quiet, persistent work of prevention, the continuity of normal development and the late follow-up of massive intervention is seldom seen. Only the rare university presently has a viable model of primary care available within the center or even within the curriculum. Many university staff have never practiced medicine in the community.

Medical education is still very much disease oriented, and among students, interns and residents even diseases are ranked. The most prestigious diseases are rare, acute, devastating and responsive to heroic medical management. The non-prestigious diseases are common, chronic, disabling and relentlessly progressive or unresponsive in the face of treatment.

> Rather than scan a full horizon of personal resolutions for American medicine, I should like to focus on two specific possibilities and leave them with you for your inspection and consideration.

FIRST, I see the possibility of a health care communiversity. President Moos has often used the neologism *"communiversity"* to denote his aspirations for Minnesota as a total environment of learning. Nowhere would this be more appropriate than in the field of health care.

The artificial division that has grown up between the university and the community physician must not be permitted to persist, for it works against the best interests of both. University staff physicians hold positions at the forefront of medical progress from which they can teach. On the other hand, they need contact with the communities and acquaintance with the practicing physician's management of the problems facing him.

Community physicians have long experience with confronting medical problems with sometimes limited technical resources but a long backlog of contact with their patients. This gives them another important perspective from which to teach. But the community physician needs to learn much more of the increasingly complex scientific background of clinical medicine.

In the communiversity. practicing physicians must take their place in medical education, bringing primary care into the medical school curriculum. University staff physicians must bring their influence to medical organizations and medical societies. The practicing physician must learn how he can contribute to the body of medical knowledge through research and the university physician must learn how he can use community practice for research.

In the fewest possible words, what is necessary is a partnership, with both sides contributing so that communities might receive better care.

SECOND, see the possibility of physicians assuming responsibility for health care rather than just medical care. The name on the front of the Mayo memorial building here on campus now reads "University of Minnesota Health Sciences Center." This name has a dual significance, in that it emphasizes the central importance of health and it designates the plural to stress other health professions besides medicine. A partial list of such professions would include dentistry, mortuary science, nursing, nutrition, psychology and social work.

Communities will not forever tolerate doctors simply handling disasters cleverly: sooner or later someone is going to ask for a prediction of coming disaster and seek means to avert it. *But health care goes even further than preventive medicine. For health is not simply absence of disease but rather the maximum realization of inborn possibility for growth and learning.*

We cannot permit sentimental attachment to disease to stand in the way of physicians providing a more basic service than medical care. Through cooperative efforts with other health professionals I believe the physician of the future will be able to provide more comprehensive health care for more people than he is presently able to assist with only medical care.

Today the only gap whose magnitude approaches that between what we know about the influence of environment upon development and what there is to know is the gap between what we know and what we are putting to practical use.

In conclusion I believe that the Department of Family Practice and Community Health at our university is a particularly promising circumstance for our state. There is new emphasis on cooperation in health care and in education, with newly defined goals in both areas. I look forward to joining in bringing these goals to realization.

Given before Family Practice dinner.
University of Minnesota, June 4, 1969.

DOCTOR OF MEDICINE

Calvin Anderson

Darrell R. Anderson

David C. Anderson

John W. Beasley

Penelope E. Beasley

Earle L. Bennett

Dean H. Bergersen

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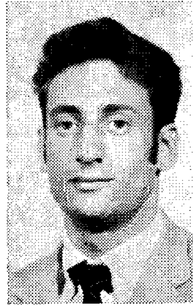
Roger D. Berglund


Wallace F. Berman

William E. Biljan

James R. Bloedel

Dennis R. Brady

Lilla A. Breyer

Robert L. Bucher, Jr.

Robert W. Burmaster

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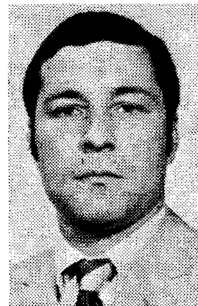
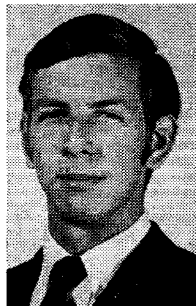

Victor L. Corbett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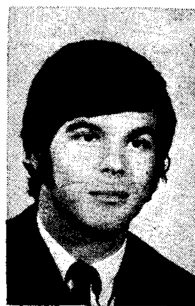
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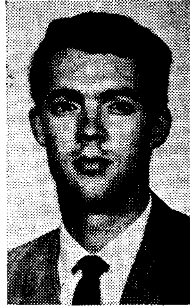
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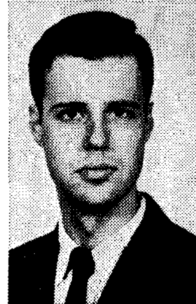
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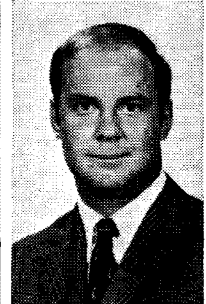
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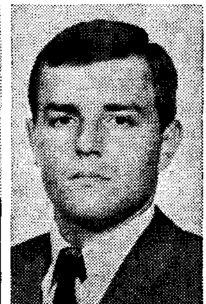
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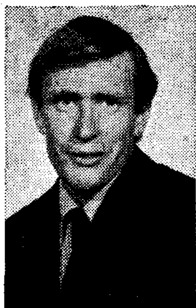
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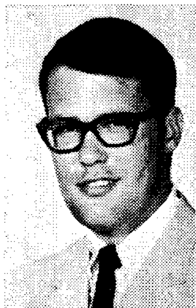
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DOCTOR OF MEDICINE

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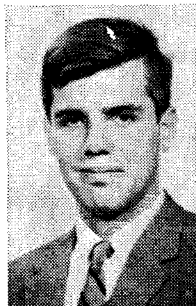
Frederick W. Johnson

James E. Johnson

Mark H. Johnson

William R. Keye, Jr.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KOSHNICK, ROBERT A., JR.
Fargo, No. Dak.
Carleton College
Intern: Hennepin County General Hospital, Minneapolis

KRAMER, KENYON K.
Vesta
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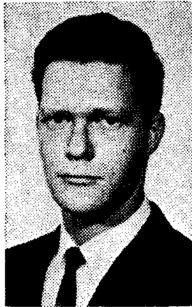
Intern: Walter Reed Hospital
Washington, D.C.

KROOK, JAMES E.
Graceville
St. John's University
Intern: Duke Hospital
Durham, N.C.

DOCTOR OF MEDICINE

Mark Kuechenmeister


Harold N. Lazar

Bruce A. Legler

Walter B. Leino, Jr.

Darrell V. Lewis, Jr.

W. Leland Lindquist

Thomas Lubitz
(in memoriam)

Kristofer T. Lund

Conrad H. Lundblad

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James D. Miller

Donald A. Monda

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University of Minnesota
Intern: St. Mary's Hospital Duluth

LEWIS, DARRELL V., JR.
Mankato
University of Minnesota
Intern: Johns Hopkins Hospital Baltimore, Md.

LINDQUIST, WESLEY LELAND
Minneapolis
University of Minnesota
Intern: Public Health Service

LUBITZ, THOMAS
Brookfield, Wis.
University of Wisconsin
Deceased: Feb. 21, 1969

LUND, KRISTOFER T.
Mankato
University of Minnesota
Intern: Providence Hospital Seattle, Wash.

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Rock Island, Ill.
Augustana College, Ill.
Intern: W. Virginia Univ. Hospital Morgantown, W. Va.

MAAS, DAVID V.
Vermillion, So. Dak.
Carthage College, Ill.
Intern: Bethesda Lutheran Hospital St. Paul

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University of Minnesota
Intern: Charles T. Miller Hospital St. Paul

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University of Delaware
Intern: Veterans Administration Hospital, Minneapolis

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Edina
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MAYER, THOMAS G.
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Hamline University
Intern: Sioux Valley Hospital Sioux Falls, So. Dak.

MILLER, JAMES D.
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Intern: U.S. Naval Hospital San Diego, Calif.

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Grand Forks, No. Dak.
University of North Dakota
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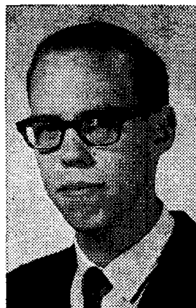
David P. Munson

David O. Nelson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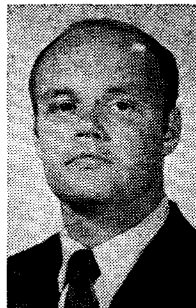
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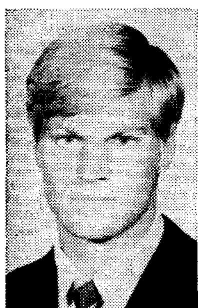
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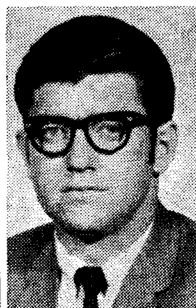
Richard M. Powell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Ralph L. Read

Herbert M. Reiman

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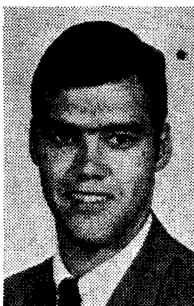
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Elton James Tourje

James L. Tuohy

Irma H. Ullrich

Richard J. Vanasek

Donald M. Volk

Philip H. Von Lintel

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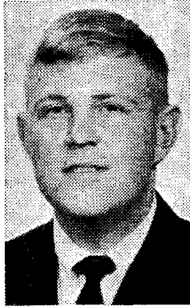
Brown University
Intern: St. Paul-Ramsey Hospital
St. Paul

John A. Wangsness

Mary W. Wangsness

Rud C. Wasson

Daniel J. Whitlock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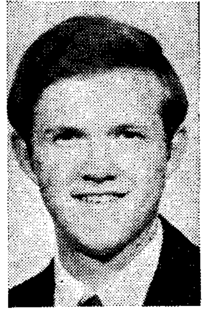
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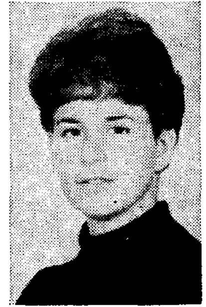
Gary L. Winkler

Richard A. Wright


Sandra T. Zieve

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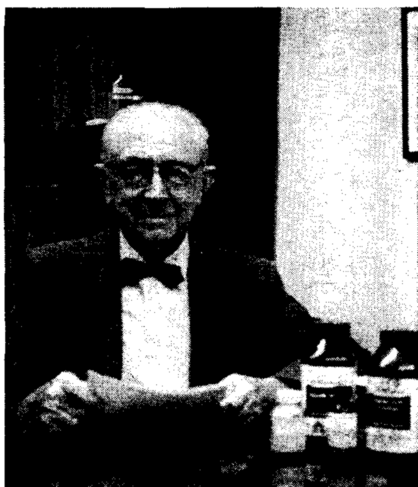
A Doctor for All Seasons



"Every class was a challenge and a thrill; to see them for the first time, to know them, to observe them acquiring knowledge and to finally see them graduate and go into practice is a teacher's private delight."

Raymond Bieter is something of a MAN FOR ALL SEASONS. His career embraces a diversified field including medical science, research, teaching and administration —a career testifying to a complete professional life. He has been doctor, teacher, administrator and "public relations man" for the University of Minnesota Medical School and the State of Minnesota for nearly 50 years. On June 30, 1969, he laid down his formal teaching tools and retired from the Medical School faculty. His friends on the Faculty honored him at a dinner held July 17th.

Dr. Bieter, is recognized for his excellence as a teacher-physician. In addition to his medical degree and license to practice, he received his Ph.D. in Pharmacology from the University of Minnesota Medical School in 1929. His decision to pursue studies in pharmacology arose from his concern over the emphasis placed at that time on diagnosis rather than treatment of patients. Several of Dr. Bieter's prominent achievements and awards were: Chairman of the American Society for Pharmacology, and Experimental Therapeutics 1939-40; selected for National Committee on Drug Addiction and Narcotics, National Research Council, 1948-50; elected to Fellowship in New York Academy of Sciences, 1950. Also, Dr. Bieter is recognized by many Minnesota alumni and general practitioners throughout the state as THE MAN on Drugs.

Dr. Bieter departed from Minnesota in 1931 for a brief stay as an associate in physiology at Johns Hopkins University School of Medicine; though he states: "I love the State of Minnesota and I am proud to have represented this state as a doctor and am equally proud to represent it as the Director of Special Educational

Services for the College of Medical Sciences."

The culmination of any teaching career is to be named full-professor, a title which Dr. Bieter attained in 1940. Promotion to full professor helped open the door to his appointment as Head of the Department of Pharmacology, a post he held from 1943 to 1964. After his tenure as Department Head, he became Director of Special Educational Services. In this capacity, Dr. Bieter made another contribution to the University as well as revealed a new dimension of his personality: he became the Medical School's emissary to thousands of those high school and college students revealing an interest and aptitude in any of the Health Sciences. Dr. Kent Wilson (Med. '66) summarized Dr. Bieter's contributions as Director of Special Educational Services aptly when he said, *"The Medical School as well as the University needs this type of representation throughout the state. Dr. Bieter was dedicated to this task and few people possess his candor and sincerity."* Ray will continue to serve as Secretary-Treasurer of the Board of Basic Sciences, a position he has held concurrently with other responsibilities since 1943.

Ray's most outstanding quality is his ability to relate to people from all walks and stations of life. He has responded to the needs of students, faculty and patients throughout the state of Minnesota. As long time friend, Marie Uchanski states, "Humility characterizes Dr. Bieter's every action. He would just as soon talk to a janitor as to the Dean of the Medical School." No man is complete without humility, and this quality lends to the life of ***"The Doctor For All Seasons"*** a wholeness and richness.

VITILIGO AND AUTOIMMUNITY*

Harry I. Katz, M.D.†
Byron C. McGregor, M.D.‡
and
Richard P. Doe, M.D., Ph.D.§

VITILIGO is a type of acquired leukoderma of the skin. It cccurs in less than 1% of the general population and in both sexes. A family history of vitiligo is present in about 40% of those affected. Vitiligo is characterized by the occurrence of multiple, convex shaped, white patches of variable size having a hyperipigmented margin and distributed in a bilateral fashion over the body surface. The sites of predeliction include the distal extremities, face, neck, trunk and genitalia. Vitiliginous skin characteristically burns but fails to tan after exposure to sunlight. Light and electron microscopic studies have revealed an absence of melanocytes and of their product, melanin, in vitiliginous skin. In addition, a lymphocytic infiltrate is sometimes present at the margin of vitiligo. The cause of vitiligo is not known. Since 1965, several authors have suggested the possibility that autoimmunity may play a role in the etilology of vitiligo.

Association with Three Diseases

Mackay in 1967 reviewed the indirect evidence which indicated that autoimmunity might play a role in the pathogenesis of vitiligo. The major reason for this hypothesis was the association of vitiligo with three presumably organ specific autoimmune endocrine diseases. The diseases were pernicious anemia, Hashimoto's thyroiditis, and idiopathic adrenal insufficiency. Circulating parietal cell antibodies are found in the serum of nearly 90% of the patients having pernicious anemia. In addition, serum antibodies against intrinsic factor are found in such patients. Similar antibodies have been described in the gastric juice. Treatment with prednisolone in these patients has increased B_{12} absorption and been associated with the reappearance of parietal and chief cells in previously atrophic areas. Gastric mucosal atrophy has recently been produced in dogs following administration of parietal cell antibodies. Hashimoto's thyroiditis is also considered one of the organ specific autoimmune endocrine diseases. This condition is characterized by a lymphocytic infiltration of the thyroid gland and a high incidence of circulating antibodies to thyroglobulin, thyroid microsomes, and to a second component of colloid. Idiopathic adrenal insufficiency is associated with a high incidence of circu-

* From a report to the Staff Meeting of University of Minnesota Hospitals on May 23, 1969
† Assistant Professor, Department of Dermatology, Minneapolis V.A. Hospital
‡ Medical Fellow, Department of Medicine, Minneapolis V.A. Hospital
§ Professor and Chief, Department of Medicine, Minneapolis V.A. Hospital

lating antibodies to adrenal tissue. In addition, patients have been described with combinations of two or more organ specific autoimmune glandular diseases. The disease complex in these latter patients constitutes the pluriglandular insufficiency syndrome including gastric parietal cells, pancreatic islet cells, gonads parathyroid, thyroid, and adrenal glands.

More antibodies found

Autoantibodies are found with increased frequency in patients having vitiligo. Bor *et al*, using immunofluorescent gastric cell antibodies techniques, studied the serum of 62 patients with vitiligo. They found a significantly increased incidence of gastric parietal cell antibodies to be present in the serum of patients with vitiligo as compared to controls. In addition, organ specific thyroglobulin antibodies occur with increased frequency in patients with vitiligo. Finally, Langhof *et al* have reported finding melanin antibodies in the serum of 85% of patients with vitiligo they studied. They detected an antibody by means of a gel precipitation technique. Langhof's report represents the only direct evidence of a possible antibody involved in vitiligo. However, this work has not yet been confirmed.

In our study on the association of vitiligo and pluriglandular insufficiency syndrome, we found a high incidence of autoantibodies in the six patients studied (see table). All of our patients had vitiligo associated with two of the following: pernicious anemia, diabetes mellitus, idiopathic hypothyroidism or Hashimoto's thyroiditis.

TABLE 1

INCIDENCE OF AUTOANTIBODIES IN 6 PATIENTS WITH VITILIGO AND THE PLURIGLANDULAR INSUFFICIENCY SYNDROME

Thyroglobulin Antibodies (6 patients tested)
Negative 1/6 Weakly positive 2/6 Positive 3/6 (over 1:2500)
Gastric Parietal Cell Antibodies (5 patients tested)
Weakly positive 1/5
Fluorescent Anti-nuclear Antibody (5 patients tested)
Positive 5/5
Rheumatoid Factor (4 patients tested)
Negative 4/4

The evidence for an autoimmune basis of vitiligo is entirely indirect to date. The association of vitiligo with either single or multiple glandular insufficiency states, in which there are increased incidences of organ specific autoantibodies, is highly suggestive of an autoimmune etiology for vitiligo. Patients presenting an organ specific autoimmune diathesis may do so because of a genetic imbalance within their immunologic systems. The high incidence of family histories of overt and covert organ specific autoimmune disease would suggest that a genetic predisposition exists. Vitiligo may then be one manifestation of such an autoimmune diathesis that may manifest itself as a deficiency of organ function in the skin, stomach, and endocrine organs.

PHYSIOLOGY OF STRUCTURE AND FUNCTION OF THE RENAL MEDULLARY CIRCULATION*

Rodney B. Harvey, Ph.D.†

IT is widely accepted that the formation of a hyperosmotic urine occurs in the collecting ducts by water reabsorption. This water reabsorption in hydropenic animals is apparently a passive process; *i.e.*, is, the osmolality of tissue and blood around the terminal collecting ducts is as high or higher than the final urine osmolality. One of the requirements for the formation of a hyperosmotic urine is a high concentration of medullary solutes.

The concentration of solutes, mainly *NaCl* and urea, in the medulla will depend upon the balance between the supply and loss of these solutes and on any changes in tissue water content. Sources of solutes are: the *Na* pump in the ascending limb of the loops of Henle; solute pumps (na and urea) in the collecting ducts; and possible solute synthesis in the medulla. Routes of solute loss are: into the blood stream, by excretion in the urine, or by loss through any medullary lymphatic drainage.

It has been found that during an induced diuresis the medullary tissue solute concentrations are rapidly reduced, there is impairment of urine concentrating ability, and there is a rapid loss of water in the urine from hydropenic animals. We have attempted to assess the role of the renal medullary circulation in these changes.

Intra-arterial acetylcholine (*Ach*) infusions have been previously reported to double renal blood flow as a result of rapid vasodilatation. Although there is little if any change in GFR, *Ach* produces a prompt diuresis in hydropenic dogs and an increased rate of excretion of *NaCl* and urea. During the initial phases of *Ach* diuresis in hydropenic dogs, the urine osmolality falls rapidly. Measurements of medullary tissue osmolality indicate that tissue osmolality is also rapidly reduced. A question can be raised whether the vasodilatation produced by *Ach* involves the medullary circulation as well as the cortical circulation and whether there is washout of medullary solutes into the renal vein blood resulting in a loss of urinary concentrating ability.

Of the several possible explanations for a reduction in the medullary tissue solute concentration, the dilution of medullary solutes seems unlikely because of the magnitude of the change and

*From a report to the Staff Meeting of University Hospitals on June 20, 1969.
†Associate Professor, Dept. of Physiology.

because the changes in tissue concentrations of *Na, K,* and urea are all different, and because there was no significant change in tissue water content. Loss by lymphatic drainage also seems unlikely because of the magnitude and rapidity of the changes. There is uncertainty regarding the existence of medullary lymphatic drainage. A sudden increase in urinary solute excretion indicates to us that the urinary loss of solute from the medulla plays an important role in these changes.

An attempt was made to assess the loss of medullary solutes into the renal vein blood during Ach infusion. This was done by measuring the arterial and renal vein plasma concentrations at frequent intervals or, in the case of urea, by continuous arterial and renal vein measurement using two auto-analyser systems. The comparison of arterial and renal vein blood concentration of *Na, K, inulin,* and urea revealed that *Na* was the only substance that had a higher renal vein than arterial concentration at any time during *Ach infusion.* The renal vein concentrations of *K, inulin,* and urea remained below arterial concentration throughout *Ach* infusion.

Urea excretion rates and blood urea removal rates were measured simultaneously before and during *Ach* infusion. The blood removal rate of urea was calculated as the product of Renal Blood Flow (measured directly), fractional blood water content, and the A-V difference in urea concentration. It was found that the removal of urea from the blood passing through the kidney continued throughout *Ach* infusion. The difference between urinary excretion rate and blood removal rate of urea was used as an estimate of the changes in the medullary stores of urea. The increase in urea excretion rate which is maximum during the first few minutes of Ach infusion can be largely attributed to wash out of stored urea from the medullary tissues into the urine. We have concluded that either medullary blood flow did not increase greatly or that there was no diminution in the efficient exchange of urea out of the effluent medullary blood vessels during Ach infusion.

To further investigate changes in medullary circulation during *Ach* infusion the microcirculation changes in the exposed renal papillae of nembutalized chinchillas were measured in surface capillaries by cinemicrography. Frame by frame analysis of 16 mm film exposed at 16 fps permitted measurement of displacement of RBC with time (velocity) and measurement of the maximum width of the RBC column (diameter). Aortic pressure was measured with a pressure transducer. The direction of flow in

most papilla surface vessels was found to be toward the arcuate veins. Usual velocities were less than 0.7 mm sec^{-1} in hydropenic animals. The IV injection of epinephrine and norepinephrine in doses of 1.5 to 10 micrograms into .35 — .5 Kg. chinchillas produced a brief reduction in velocity in all papillary vessels. In most vessels the flow ceased and briefly reversed in direction. The most likely site of action of epinephrine is on the afferent or efferent arterioles of the juxtamedullary glomeruli upstream to the observed papillary vasa recta.

When *Ach* was injected into the aorta just above the renal arteries of chinchillas there was evidence of an increase in RBF and a diuresis similar to that found in dogs. During *Ach* infusion the velocity of flow in exposed papillary vasa recta fell. This fall was of small magnitude and probably could be attributed to a simultaneous fall in aortic pressure. There was no detectable change in vasa recta capillary diameter.

So far, we have found no direct evidence that *Ach* produces a plethora in the chinchilla renal medullary tip as it does in the cortex. In addition, there is evidence that a great deal of the solute lost from the medullary tissue during *Ach* infusion enters the urine. Our best guess at the present time is that some combination of permeability and convective changes within the nephron itself accounts for the changes in water and solute excretion during *Ach* infusion.

I would like to emphasize the rapidity with which changes in concentrating ability can occur. The diuresis and changes in urine composition are apparent within a few seconds of the time *Ach* infusion IA is started. The finding that the kidney recovers rapidly from the effects of *Ach* is perhaps less well known. Not only does urine flow fall but urine osmolality rapidly rises. This is preceded by a rise in midullary tissue osmalality. During this recovery period there is an accumulation of urea and NaCl within the medullary tissues. In most of the experiments the increase in tissue urea concentration occurred while the urine urea concentration was lower than the tip tissue concentration. One mechanism that has been proposed to explain the accumulation of urea is the active reabsorption of urea out of the medullary portion of the collecting ducts into the tissues of the inner medulla.

Alumni Deaths

Naboth O. Pearce/1905

Tavernier, Fla.; for many years practiced in Minneapolis and was past president of the Minnesota State Medical Association, Hennepin County Medical Society, and the Hennepin County Tuberculosis Association; died March 5, aged 89, of probable coronary artery occlusion, arterioschlerotic heart disease, and congestive heart failure.

Clarence O. Maland/1907

Died June 21, 1969, age 87 years. He retired from practice in 1960 after 51 years of OB-GYN, all at Swedish hospital in Minneapolis. He was formerly on the Medical School's clinical faculty, and was honored by the University of Minnesota for his service to the institution.

Ramby C. Rasmussen/1922

Died May 23, 1969, at age of 78 years. A native of Denmark, he had practiced in St. Paul, Minn. for 46 years. Survivors include his widow, Vera, and a son.

Hamline A. Mattson/1925

Died June 28, 1969 in Minneapolis. He was 69 years of age, and had practiced general medicine in the city for 37 years. Dr. Mattson was former president of the American Swedish Institute and the Downtown Exchange Club.

Helen Adams MacKeen/1922

Died in Rochester, Minn. on March 20, 1969. She was 74. The cause of death was chronic rheumatic heart disease. She was also formerly a fellow in pediatrics at the Mayo Graduate School of Medicine.

Charles E. Thompson/1958

Died July 7, 1969 in Baltimore, Maryland, where he owned and operated a clinic. He graduated from the University of Minnesota Medical School. He was an intern at Veterans Hospital in Minneapolis, and at Baylor University Hospital, Waco, Texas, and did graduate work at Johns Hopkins University, Baltimore. Survivors, his mother, Mrs. Rose Thompson, and a daughter, Ann Elizabeth, both of Minneapolis.

John M. Schipke/1965

John M. Schipke

Died June 22, 1969, age 30 years. He was a resident in radiology at the Minneapolis V.A. Hospital, and suffered a fatal heart attack while on call. Dr. Schipke served recently with the U.S. P.H.S., and was a member of Nu Sigma Nu. He took his undergraduate education at Macalester College and the University of Minnesota. He is survived by his widow, Barbara, a son, two daughters, his parents, and a brother. His family lives at 3433 46th Ave. S., Minneapolis.

MEMORIALS

Gifts have been received recently by the Minnesota Medical Foundation in memory of the following:

Mrs. Jean Haverstock
Adam Horsman
Martin B. Callan, M.D.
Mrs. Murray Lewis
Thomas Lubitz
Mrs. Ione Cooper
Katherine Ahern
Mr. R. V. Curtiss
Mrs. Helen Lee
Mrs. Dorothy Granse Gouette
Mr. C. Edward Howard
Mrs. Mary Briggs Graham

Memorial gifts are a thoughtful means of honoring the memory of a relative, friend, or colleague. Gifts may be designated for specific purposes. The Minnesota Medical Foundation acknowledges all gifts to both donor and next of kin.

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ALUMNI SCENE

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SEEKING: A TRADITION-MINDED PERSON

An UNUSUAL PHILANTHROPIC OPPORTUNITY awaits an alumnus of the Medical School or friend of medical history in Minnesota.

A tradition-minded individual is sought who wishes to contribute the funds necessary to underwrite distribution of the new book, MASTERS OF MEDICINE, to members of the Medical School's graduating Class of 1970.

MASTERS OF MEDICINE is a 921-page history of the University of Minnesota College of Medical Sciences, compiled by Dr. J. Arthur Myers, and published in 1968 by the Minnesota Medical Foundation.

A contribution of $2,500.00 will provide a complimentary, personalized copy of this important book to each member of the Class of 1970, as a gift of the donar. The presentation will occur at the traditional Medical School Recognition Day ceremonies to be held in June, 1970 at the University.

Inquiries may be directed to Mr. Eivind Hoff, Executive Director, Minnesota Medical Foundation, Box 193, University Hospitals, Minneapolis, Minn. 55455.

KEEP AN EYE ON THE ALUMNI

This Fall we will be publishing a new Medical Alumni Magazine. It will have a completely new format and design with larger page size, quality visual art and creative feature articles.

We solicit your support. We will run a more elaborate section in each bi-monthly issue on Alumni Notes. We need a constant flow of information about you and your achievements. This magazine requires in-depth feature material such as personal adventures. If you can write articles on these subjects, we will be happy to consider them for publication.

Why not put yourself in the publishing **"eye"**? Let us hear from you.

Sincerely,

Eivind Hoff

Eivind Hoff, Jr.
Executive Director

EH:CE

Comments and criticisms of remarks appearing in this column are welcome. Indeed, they are solicited. Communication between Alma Mater and the Alumni Family must be two-way. Let us hear from you.

Keep Your Eye on The Alumni

WATCH for it this SEPTEMBER!

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