

VETERINARY MEDICAL REVIEW

School of Veterinary Medicine
University of Missouri-Columbia

April 1, 1972, No. 49

Avian Leukosis Provides Model For Leukemia

Avian leukosis costs the poultry industry millions of dollars yearly in losses, but this cancerous disease is also an excellent model for the study of human leukemia. Several tumors of animals are caused by viruses and it appears that there is a viral cause of at least some human cancers.

Scientists suspect that a type of cell-mediated immune response is important in resistance to cancer and believe that small lymphocytes are important in this process. Two projects sponsored by the U.S. Public Health Service at the UMC School of Veterinary Medicine are studies of this immune response and represent a concerted effort toward understanding and hopefully controlling cancer.

Dr. Raymond W. Loan, professor of veterinary microbiology, and Dr. Gerald M. Buening, assistant professor of veterinary microbiology, are co-investigators in a three-year project involved with laboratory methods for identifying and measuring the cell-mediated immune response in avian leukosis.

Dr. Loan and Dr. E. L. McCune, associate professor of veterinary microbiology, are directing a second 3-year U.S. Public Health Service project to study the effect of immunosuppressants and interferon inducers on avian leukosis. Interferon inducers, which usually contain double-stranded ribonucleic acid, cause cells to produce protein molecules known as interferon, which protect other cells from virus infections. Others working on the projects include Dr. Milan Vlaovic, research associate in veterinary microbiology, and David Granlund, graduate research assistant.

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Dr. McClure Receives Fulbright Lectureship

Dr. R. C. McClure, professor of veterinary anatomy, has been selected to receive a Fulbright-Hays Lectureship in Vienna, Austria, during a year of sabbatical leave from the School of Veterinary Medicine. He is the first veterinary anatomist to receive a Fulbright.



He was chosen for the only grant offered in veterinary medicine for 1972-73 under the Fulbright-Hays Act of 1961 which provides lecturing or research appointments for college and university teachers in many different countries.

Dr. McClure will lecture on methods for investigating morphology of the peripheral nervous system and the anatomy of laboratory animals to younger faculty members and graduate students at the Vienna Institute of Veterinary Medicine. He will also conduct research in gross anatomy and will cooperate in editing a pictorial nomenclature of veterinary anatomy with Prof. Dr. Oskar Schaller.

Dr. McClure has been on the UMC staff since 1960 and was chairman of the Department of Veterinary Anatomy from 1960-1969. He was on the faculty of Iowa State University in 1955-56 and at New York State Veterinary College, Cornell University from 1956-60. He received a D.V.M. from Iowa State University in 1955 and a Ph.D. from Cornell University in 1964.

He is a consulting editor of the 22nd edition of Stedman's Medical Dictionary to be published in May. He is a past president and past secretary-treasurer of the American Association of Veterinary Anatomists and is a member of Phi Zeta, Alpha Zeta, Sigma Xi, Phi Kappa Phi, American Association of Anatomists, World Association of Veterinary Anatomists, Missouri and American Veterinary Medical Association, American Association of Laboratory Animal Science, American Association for Advancement of Science, New York Academy of Science and the Association of American Medical Colleges. He is a member of the International Veterinary Anatomical Nomenclature Committee and serves as a subcommittee chairman.

At the University, Dr. McClure has served as president of the University Club and on the Tenure Committee, Campus Planning Committee and Student Organization, Activities and Government Committee as well as many committees in the School of Veterinary Medicine.

Dr. McClure, his wife and high school age daughter will leave in August. He will present a paper at the European Association of Veterinary Anatomists meeting in Vienna August 7-11.

Rileys Enjoy Sharing Professional Interests

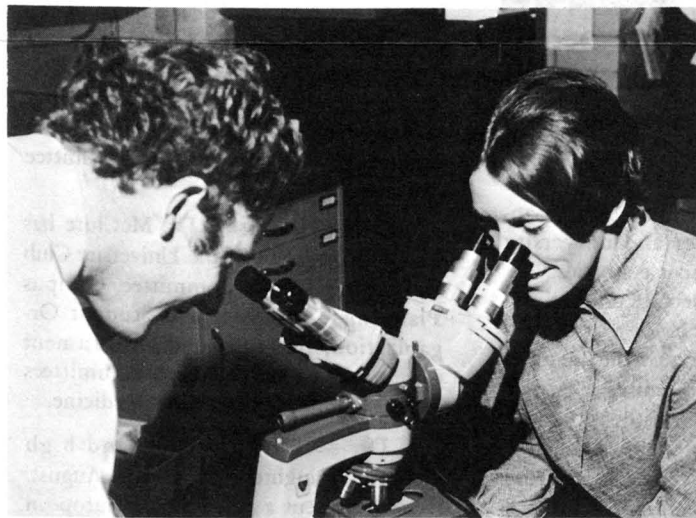
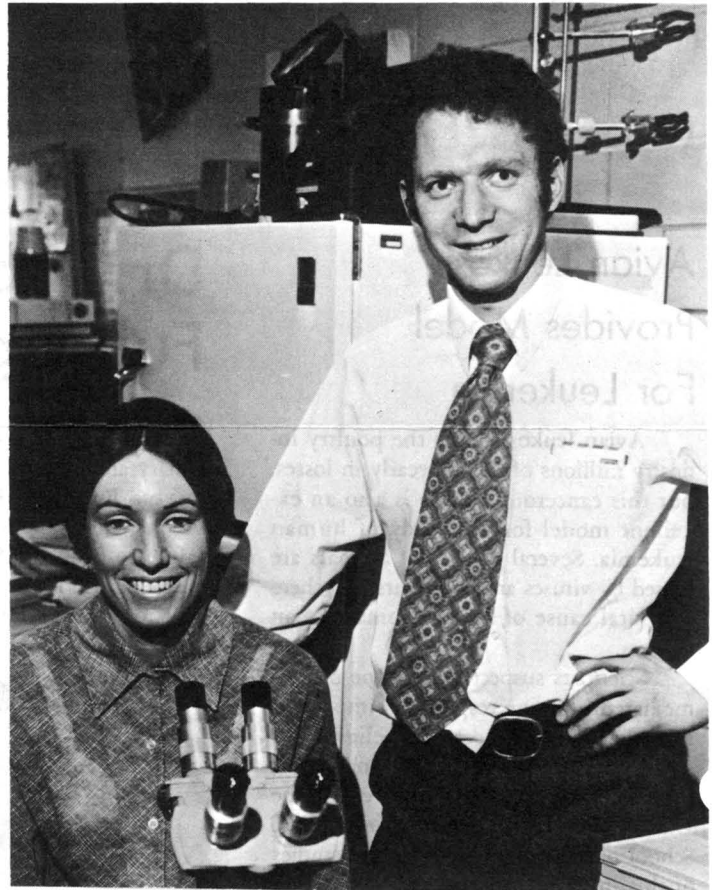
Husbands and wives usually prefer not to work for the same employer when they're qualified for similar jobs. Professional competition and constant companionship could present problems to any healthy marriage. Drs. Gary and Julia Riley don't hold this opinion, even though both are research associates in pathology at the UMC School of Veterinary Medicine.

Two years ago the couple came to Columbia from their home in Melbourne, Australia, to continue their education in veterinary medicine. Along with sharing the same professional interest, both Dr. Riley's possess the same strong Australian accent; warm, sincere smile; and deep satisfaction in sharing home and office situations with each other. Their similar personalities enhance their roles as fellow veterinarians.

Competition is not a problem because their interests in veterinary medicine are not in the same areas. "Even if they were, we do not compete with each other," Dr. Julia Riley said. She is an instructor in clinical veterinary pathology at the University, while he is conducting research in streptococcal diseases of swine. Married almost four years, the couple met while attending the University of Sydney, Australia. Dr. Gary Riley received his appointment to UMC Veterinary School upon graduation from Melbourne (Australia) University with a M.V.Sc. degree.

Dr. Julia Riley, who holds a B.V.Sc. degree from the University of Sydney, had worked in private practice for two years before moving with her husband to Columbia. After graduation next summer from the Veterinary School, he will enter institutional work, while she plans to establish a private practice again.

The Drs. Riley find veterinary students in Australia and the United States quite similar, although the field appears to be more saturated and the competition keener in Australia. Australia has three veterinary schools and another will soon be completed. Students in Australia graduate at a younger age because they are not required to complete courses outside their major area, and require-



ments to enter a veterinary school are based solely on accumulative grade point from high school. Veterinary schools there cover basically the same material as schools in the United States and require only one examination at the end of each school term.

Dr. Julia expresses surprise with the small percentage of women who study and practice veterinary medicine in the United States. Approximately one-third of her class at Sydney University was women, while the present UMC Veterinary School enrollment is 24 female and 225 male students. "The United States exports a very liberal image abroad," she said, "and we were surprised with this conservative viewpoint toward women in the profession. Since coming to the United States, I can understand the reasons behind the women's liberation movement." Dr. Gary Riley attributes nothing more than male chauvinism to the small percentage of women veterinarians in this country.

The couple vacationed in the southwest and western United States last summer and observed little difference in Australian and American lifestyle. However, they describe California as more closely resembling Australia in culture and ideas than any other area of the United States.

After graduation they plan to tour Europe and Scandinavia for several months in their Volkswagen camper.

Pathology Symposium Scheduled for May 9

A symposium on mycotoxins and mycotoxicoses, with presentations of the pathological manifestations in plants, animals and man, will be held in Memorial Union Auditorium May 9.

Sponsored by the area pathology doctoral program in the University of Missouri departments of plant, veterinary and medical pathology and extension division, the symposium features discussions by eight professors. Dr. L. D. Kintner, professor of veterinary pathology and diagnostic laboratory, is the School of Veterinary Medicine faculty member included in the program.

Application has been made to the American Academy of General Practice and to the Missouri Academy of Veterinary Medicine for seven hours of prescribed credit for those attending the symposium.

Students Attend AVMA Symposium

Seven veterinary medicine students and Dr. E. R. Ames, associate professor of veterinary microbiology, attended the mid-February second annual National Conference of Student Chapters (NCSC) AVMA Educational Symposium held in conjunction with the third annual Educational Symposium of the Student Chapter of the AVMA at Auburn (Alabama) University.

Attending the NCSC conference were delegate Patrick Maloney, third-year student and president of the UMC student chapter of the AVMA, and alternate David Moore, second-year student. Dennis Hood, Ron Kettenacker, Richard Kent, Clint Jones and Ed Cox, all second-year students, attended as delegates.

The keynote address for the joint symposium was delivered by Dr. John R. McCoy, president of the AVMA, Piscataway, N.J. A panel discussion on the role of minority groups in veterinary medicine was led by Dr. Iverson C. Bell, black vice president of the AVMA, Terre Haute.

During the two-day conference, students toured the facilities at Auburn University School of Veterinary Medicine and the predominately black Tuskegee Institute School of Veterinary Medicine, Ala-

Students' Career Choices Follow Fathers' Profession

Nine students in the School of Veterinary Medicine have fathers who are veterinarians. Four of those were featured in last month's REVIEW. The remaining five will be included in this month's.

When Dr. T. H. Brune received his D.V.M. degree from the Veterinary School in 1952 and established a mixed practice in Warrenton, Mo., he couldn't have possibly imagined that his four-year-old daughter would receive the same degree from the same school 20 years later.

Workshop Scheduled For Practitioners

A workshop on improving the conception rate in the mare will be held at the Veterinary Hospital-Clinic April 8-9 by the Continuing Education and Extension Division of the UMC School of Veterinary Medicine. Enrollment is limited to 12.

Topics during the lecture, discussion and laboratory sessions include the sexual cycle, infertility, the estrous cycle, pregnancy, infection of the genital tract, causes of abortion, reproductive health plans, and reproductive problems of the single mare and brood mare band.

Workshop faculty members are Dr. C. J. Bierschwal, Dr. J. R. Coffman, Dr. C. E. Martin and Dr. E. C. Mather, all of the veterinary medicine and surgery department.

Precommencement

Dr. William Carlson, president of the University of Wyoming will be the speaker for the PreCommencement Exercises to be held at 10 a.m. on May 16 in the Livestock Pavilion. The University Commencement Exercises will be held at 3:00 in the new Hearnese Auditorium.

bama's two veterinary schools located 30 miles apart.

Topics of other speeches at the symposium included the pro and con of central hospitals, diversified investments for the professional, the antivivisectionist, and client communications.

Fourth-year veterinary student **Miss Diane Brune** had childhood aspirations of becoming a nurse, but decided on a veterinary profession in high school.

She enjoys school vacations when she can assist and observe her father at work. "I admire his rapport with clients. This aspect of veterinary medicine can't be taught in a classroom," Miss Brune said, "and in this respect and others I've learned a lot about the kind of veterinarian I'd like to be. Being a veterinarian's daughter, I truly appreciate the hard work of a practice and I'm grateful to be prepared for that when I graduate."

After graduation she would prefer a predominately small-animal practice because she feels this area offers more advantages for a woman veterinarian. Miss Brune is a member of the *Missouri Veterinarian* staff.

Gary Atkinson, St. Louis, is the only student who said that he would definitely join his father, Dr. L. N. Atkinson, in small-animal practice after graduation. A second-year student, his decision to enter veterinary school occurred while serving as an infantryman in Vietnam. Atkinson was enrolled in basic sciences curriculum at Central Missouri State College when he was drafted for military service during his junior year in 1967. Dr. L. N. Atkinson, a 1941 graduate of Kansas State University, impresses his 26-year-old son with his understanding of an owner's emotional relationship with his pet. Atkinson, his wife, Judy, and their daughter take occasional weekend trips to St. Louis where he allows time to help his father.

Professional schools are steeped in traditions of principle and integrity. This is one reason first-year student **Chris Snodgrass**, Phoenix, Ariz., enrolled in the UMC Veterinary School. Though Snodgrass explains that parental influence was never a primary consideration, the 23-year-old's father, Dr. William Snodgrass, is a feedlot consultant in Phoenix and owner of a small-animal clinic in nearby Glendale.

The only first-year student with a veterinarian-father, Snodgrass attended

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Avian Leukosis Con't

The technique for measuring the cell-mediated immune response involves combining immune lymphocytes from chickens with tissue cultures infected with leukemia virus and labeled with the radioisotope chromium-51. If the lymphocytes are immune they release the chromium-51 label from infected cells. The released radioisotope is detected in a gamma counter. Other studies for measuring cell-mediated immunity in avian leukosis utilize inhibitory effects of immune lymphocytes on migration of macrophages, which function to engulf foreign material in the body. The fact that little is known concerning the cell-mediated immune response in cancers makes the study highly significant.

The researchers are also conducting studies of different parameters on the cell-mediated immune response that might have a bearing on resistance to cancer. Parameters such as age, sex, genetic background, and infection or immunity to the avian leukemia virus are being studied.

Cancer viruses and associated antigens could serve as the stimulus for an immunologic attack on cancerous cells and an effective attack would most likely involve cell-mediated immunologic mechanisms. With insight into the immunologic response lower animals produce against virus-induced tumor antigens, scientists expect to understand more about similar processes in the human. This could ultimately lead to the prevention and arrest of cancer.

Students Con't

Phoenix College two years before enrolling at UMC. In May he will graduate from the College of Agriculture with a B.S. in animal husbandry. Snodgrass works with research animals as a senior technician in the agricultural chemistry department. After graduation from the Veterinary School he would like to move to Colorado with his wife, Susan, and two children to establish a large-animal practice.

Mike Wempe's family heritage appears to be a veterinary practice. The fourth-year student from Lawrence, Kan., is following a tradition set by his father, Dr. W. W. Wempe, a general practitioner in Lawrence; his uncle; a great-uncle; and four cousins. Wempe thoroughly enjoys veterinary medicine and plans a small-animal practice after graduation, hoping to eventually own a ranch and raise horses for a hobby.

In describing his father, the 26-year-old said, "I'm most impressed with the satisfaction he receives from knowing he's doing a good job and with the respect his clients and friends have for him."

Wempe was a letterman on the Missouri football team from 1964-67 and a member of the track team from 1965-66. His athletic inclination extends to hobbies such as fishing, hunting, golf, and baseball. He hopes to obtain a pilot's license within two years and then try his hand at skin-diving. Wempe is a member of Beta Theta Pi Fraternity.

Fourth-year student **Miss Cathy Rowan** is the daughter of a veterinarian, the late Dr. Robert Rowan. She has been off campus for an optional block.

—About the Faculty—

Dr. C. R. Dorn, associate professor of veterinary microbiology, presented a lecture Feb. 11 in the Department of Epidemiology, School of Hygiene and Public Health, Johns Hopkins University, Baltimore, Md.

Dr. V. S. Cox Jr., assistant professor of veterinary anatomy, presented a seminar on "Some Aspects of Neurocytology" to the department of veterinary anatomy at Ohio State University Feb. 11 in Columbus, Ohio.

Dr. H. E. Jensen, associate professor of veterinary medicine and surgery, presented two papers, "Diseases of the Cornea" and "Congenital and Systemic Pathology of the Eye," to the New Orleans Veterinary Medical Association Feb. 28-29 in New Orleans, La.

Dr. D. J. Wagstaff, assistant professor of veterinary physiology and pharmacology, presented a paper on "Arsenic Trioxide: Stimulation of Liver Detoxication Enzymes" at a meeting of the Society of Toxicology March 8 in Williamsburg, Va.

Dr. K. H. Niemeyer, associate professor of veterinary medicine and surgery, gave a paper March 11 on "Repair of Ruptured Anterior Cruciate" at a meeting of the Central Missouri V.M.A. in Boonville.

School of Veterinary Medicine

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104 Connaway Hall

University of Missouri-Columbia

Columbia, Missouri 65201



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