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A New Inherited Disorder in English Springer Spaniels

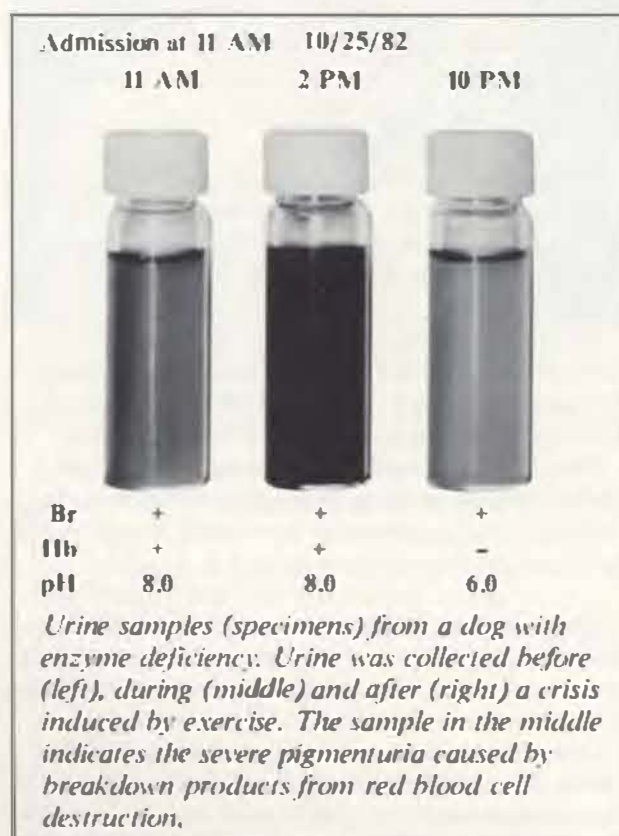
A New Inherited Disorder in English Springer Spaniels

Hereditary defects are common in the canine population, due partially to the narrow genetic pool in certain breeds and the frequent inbreeding. Many hereditary diseases are caused by an enzyme defect resulting in metabolic disturbances that can be life-threatening.

Dr. Urs Giger, a young faculty member at Penn's School of Veterinary Medicine, is investigating a newly recognized enzyme defect, namely, a phosphofructokinase deficiency in red blood cells of some English Springer spaniels. These studies were initiated at the University of Florida in collaboration with Dr. J.W. Harvey where Dr. Giger was a postdoctoral fellow and resident in small animal medicine. Retinal dysplasia and rage syndrome are two other inherited disorders in English Springer spaniels that have been previously studied at the University of Pennsylvania.

Phosphofructokinase, a major regulatory enzyme in all cells, catalyzes the metabolism of sugar and thereby is central in the production of energy to maintain normal cell function. The clinical features of this enzyme deficiency are intermittent anemia with weakness and pale gums, and dark urine which ranges from orange to coffee-brown colored. Interestingly, a crisis of anemia and dark urine can be precipitated by

hyperventilation. Hyperventilation occurs readily in all dogs owing to their tendency to pant and regulate their body temperature by this means. Thus, excessive panting, prolonged harking, exercise, heat and humidity can induce an episode



of accelerated destruction of red blood cells due to the enzyme deficiency and result in a lower red blood cell count (anemia) and dark urine (pigmenturia) for a few days. The dark urine is caused by the presence of massive amounts of bilirubin, a pigment that is formed from hemoglobin released from destructed red blood cells (hemolysis). Some affected dogs have very mild signs, and other affected dogs appear to have less likely problems if stressful episodes that induce hypoventilation are avoided.

Dr. Giger presently knows seven affected show and field trial English Springer spaniels of one to eight years of age. As most enzyme defects, phosphofructokinase deficiency is autosomal recessive inherited. Mating of two carrier animals will result in affected, carrier and unaffected dogs. A diagnosis of this disorder can be made by the above mentioned clinical features and in Dr. Giger's laboratory by measuring the enzyme activity in small fresh blood samples. Carriers can be detected by the same laboratory tests. This is a rare inherited disorder and English Springer spaniel breeders should not be alarmed.

Dr. Giger hopes to investigate further the prevalence in this breed, the mechanism of red blood cell destruction, and therapeutic management of this disorder. Further information is available from Dr. U. Giger, Department of Clinical Studies (Philadelphia), VHUP/H1, 39th and Spruce Streets, Philadelphia, PA 19104.

Pioneer Black Veterinarians at Penn

Dr. William H. Waddell (V'35) was the sixth black graduated from the School of Veterinary Medicine at the University of Pennsylvania. In the 50 years since leaving Penn he has carved out an outstanding career in many fields—practice, education, military service, mental health activities, government work and a continuing interest in the recruitment and retention of minority students. Dr. Waddell has written on the history of black veterinarians and his material serves as the source of much of the information presented here.

Before coming to the Veterinary School, Dr. Waddell attended the Manassas Industrial School in Virginia and then graduated from Lincoln University, Oxford, PA. Soon after graduation from Penn he became affiliated with Tuskegee Institute, Alabama, where he eventually became director of the Veterinary Division. In 1937, along with Dr. Jesse R. Otis, he was instrumental in founding the first black veterinary school at this institution, and he served as acting dean. During World War II Dr. Waddell was regimental veterinarian of the famous 9th Cavalry and participated in four major campaigns. After the War he practiced in West Virginia and North Dakota and for ten years he worked for the U.S. Department of Agriculture. In both West Virginia and North Dakota Dr. Waddell was active in mental health affairs and he received commendations from the governors of both of these states for these activities.

Dr. Waddell was the first black member of the American Veterinary Medical Association and he has received alumni awards from the Manassas Industrial School, Lincoln University, and in 1970 he was the recipient of a General Alumni Society Award from the University of Pennsylvania. In 1984 Dr. Waddell was presented with the Centennial Award of Merit by the School of Veterinary Medicine.

Dr. Waddell continues to have an active interest in the education of black veterinary students. As a part of this interest he has established loan funds at both Tuskegee and Penn. Dr. Waddell and friends have contributed to the fund at Penn which grants emergency loans to all qualified students.



Dr. Waddell receiving the Centennial Award of Merit on Alumni Day 1984.

Dr. Waddell is the author of several books. In 1965 he first published *The Black Man in Veterinary Medicine* (Taylor Publishing Co., Texas & California). This was recently republished (Friesen). He has also written *People are the Funniest Animals* (Dorrance, Philadelphia), and *Universal Veterinarianism* (Manitoba Publishers, Canada).

Dr. Waddell's research on the history of black veterinarians reveals that the first black graduate in the University of Pennsylvania's Veterinary School was Augustus N. Lushington who came to the School from Trinidad, British West Indies. Dr. Lushington graduated in 1897 and practiced for

two years in Philadelphia. In 1900 he relocated to Lynchburg, Virginia.

The second black to graduate from Penn's Veterinary School was John Baxter Taylor in 1908. In the same year Dr. Taylor was the first black to participate in the Olympic Games in which he won a gold medal as a member of the United States 1600 meter relay team. Not long after his history-making performance in the Games, John Taylor died of pneumonia.

Dr. Taylor was followed by Dr. Cornelius Vanderbilt Lowe who graduated in 1909, Louis E. Baxter, 1910, and Augustus M. Fisher, 1912. According to Dr. Waddell, Dr. Lowe was the first black veterinarian to be employed by the new U.S. Bureau of Animal Industry (BAI) and throughout his lifetime was influential in stimulating many black students to choose veterinary medicine as a career. Louis E. Baxter served as a lieutenant in World War I with the 22nd Hospital Unit, U.S. Army and then practiced for many years in Bernardsville, N.J. At one time he served as president of the NAACP. Dr. Fisher, in addition to his studies at Penn, also studied for brief periods at the Royal Veterinary College, London, and at the Hahnemann Medical College, Philadelphia. He practiced for a period in Titusville, PA, and then joined the U.S. Department of Agriculture.

Dr. Jane Hinton (V'48) was the first black woman to graduate from the Veterinary School. Dr. Hinton's father, Dr. William A. Hinton, was a professor at Harvard Medical School. Prior to coming to Penn, Jane Hinton, after graduation from Simmons College in 1939, worked in bacteriological research and was a member of the Harvard Medical School Expedition to Canada where she studied some communicable diseases that had become epidemic in army troops stationed there. Dr. Hinton also spent three years, during World War II, in a laboratory at Fort Huachuca Army Hospital. She entered the federal service in the early 1960s and is presently a veterinary medical officer in Veterinary Services and is stationed in Massachusetts.

John E. Martin V.M.D.