cubated with a rapidly growing strain of *Diplococcus pneumoniae,* striking decreases of serum glycoprotein and consistent decreases of protein resulted. Paper electrophoretic studies indicated that these changes were largely restricted to the a_1-globulin fraction. It would appear that this strain of *Diplococcus pneumoniae* preferentially uses glycoproteins found in the a_1-globulin fraction of mammalian serum.

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Endemic Toxoplasmosis in Isolated Swine and Cattle Herds and Its Relationship to a Human Population.* (26351)

NANCY MITCHELL WENDE AND ROBERT B. DIENST (Introduced by Knowlton Hall)
Department of Medical Microbiology and Public Health, Medical College of Georgia, Augusta

Serological findings have shown that toxoplasmosis occurs as an attenuated infection in man and many warm blooded animals(1, 2,3). Rarely does overt disease occur with *T. gondii* when one considers the high incidence of infection. The means of natural transmission remain unknown(4). The present study presents additional information for natural transmission from animal to animal and from animal to man in an isolated environment.

In a recent study of 703 patients at the Georgia Training School for Mental Defectives,† Gracewood, Ga., serologic procedures had pinpointed a high incidence of attenuated infection in 2 of 12 cottages. In these 2 cottages 51% of 86 patients were positive to the toxoplasmin skin test as compared to 15.4% of 617 patients in other cottages. The only related identifiable factor which differentiated these 2 cottages was that they housed the patients who assisted in the farm work and in the care of the farm animals. Each of the 12 cottages had a relatively stable population which slept in that cottage and ate together to form a "family group." A central kitchen prepared the food for all cottages; milk was purchased from an outside dairy. There was a central water supply.

Investigation of infection in the 2 large animal herds maintained at Gracewood revealed the high incidence shown in Table I.

The farming program at Gracewood was under the direction of a graduate agriculture engineer and all animals were under the medical supervision of a licensed veterinarian. No epidemic or unusual disease of acute or subacute character had occurred among the animals for the past 9 years. The herds investigated served as a source of beef and pork for the Training School; all meat passed U. S. Government standards. The swine herd had been kept for over 12 years in a pasture adjacent to the slaughter house. The beef cattle were pastured with the swine until 1957 when they were removed to new pastures 5 miles distant; however, cattle were still occasionally pastured with the swine at intervals to control the forage crops. The pasture was plowed twice yearly to minimize parasite infestation. All garbage collected from the Training School was heated to 212°F for a minimum of 30 minutes before being fed to swine. Warfarin was placed out routinely for rodent control.

Isolation of T. gondii. To substantiate serological incidence of infection in the swine herd, isolation attempts were made on the brain tissue of 14 randomly selected hogs that were slaughtered for table consumption.

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TABLE I. Methylene Blue Dye Test.

Animal	Herd size	Animals tested	Dilution 1:16		Dilution 1:64	
			No. pos.	% pos.	No. pos.	% pos.
Swine	350	48	33	68.8	25	52.1
Cattle	440	24	20	83.3	12	50.0

The viable organism was demonstrated in the brains of 5 of these animals. The brain tissue was collected within 3 hours after slaughter and processed within an additional 2-24 hours. Thirty grams of brain tissue were homogenized in a Waring Blendor with the gradual addition of 100 cc isotonic saline. The homogenate was filtered through 4 layers of gauze, then centrifuged in 100 cc amounts at 1200 rpm for 30 minutes. The supernate was removed and the sediment was thinned with 10 cc of saline before 0.75 cc was inoculated intraperitoneally into each of 6 Webster mice weighing 20-24 g. Cortisone was given subcutaneously in amounts of 2.5 mg on day of inoculation and on each of the 2 following days. Two strains were identified and maintained by mouse passage and 3 other identifications were made from Wright stains of peritoneal exudates. Early mouse passage required a 6-day interval in this host before successful transfer. After 2 months of laboratory passage, transfers could be made following a 3-4 day interval.

Discussion. The high incidence of naturally occurring attenuated infection with *T. gondii* in 2 domestic herds on the Gracewood farm identified a circumscribed area of endemic infection. It was considered highly improbable that the average incidence of toxoplasmosis in herds of domestic animals would be as high as 60-80%. Feldman and Miller(5) studied 5 cattle herds and found that incidence of toxoplasmosis varied from 0 to 49%. The 83% incidence in the herbivorous herd on Gracewood Farm indicated that transmission from animal to animal had occurred very successfully by means other than consumption of infected meat. Furthermore, the high incidence (51%) of toxoplasmosis in the patients in only 2 out of the 12 cottages in which all patients were supplied from the same meat source, indicated that consumption of infected meat was not the primary mode of transmission. The known absence of overt disease and the known high incidence of infection as shown by serological testing indicated that the strain of *T. gondii* isolated at Gracewood was of low virulence under conditions of natural transmission.

Summary. A localized area in Georgia has been identified that showed a high incidence of attenuated infection with *T. gondii* in a herd of cattle and of swine. This locale provided a means of investigating the epidemiology of this infection under natural conditions. The high incidence (51%) of toxoplasmosis in the patients of 2 cottages was related to association with the infected animals but was not related to consumption of infected meat.

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