

HYGIENE AND PUBLIC HEALTH.

UNDER THE CHARGE OF

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Significance of Streptococci and Leukocytes in Milk.—In the author's abstract of a paper presented at the annual meeting of the American Public Health Association in the city of Mexico, in December, 1906, NORMAN MCLEOD HARRIS states that cultural and biological tests have failed to differentiate pathogenic from non-pathogenic forms of milk streptococci, although it is thought that milk obtained from cows suffering from acute mastitis is responsible for epidemics of severe sore-throat, tonsillitis, and gastro-intestinal disturbances in man. Hence, it would seem that in the absence of any such outbreaks the cocci are ordinarily to be considered as of no significance. With reference to the so-called pus cells in milk, we are at a disadvantage in having little definite information about normal leukocytosis. Concerning this point the observations of H. L. Russell and Conrad Hoffman (author's abstract—Leukocyte Content of Milk Drawn from Apparently Healthy Animals) are of value. From an examination of the several existing standards it is evident that there is a wide range in the limits which are recognized as indicating the presence of pus in milk and that data are altogether lacking to warrant the formulation of a proper scientific standard. They have examined milk from cows with no discoverable udder lesions or previous history of garget, and have found very wide variations, some specimens which are wholly satisfactory from a clinical standpoint yielding counts much in excess of accepted standards. They present data showing that "physiological leukocytosis may manifest itself in the milk of animals subjected to environmental conditions such as can in no material way affect the wholesomeness of the milk supply," and they emphasize the necessity of a thorough study of the subject before excluding from the market milk from cows in which no moribid processes can be detected.

W. RULLMANN and R. TROMSDORFF (*Arch. f. Hyg.*, 1906, lix, 224) confirm Bergey's statement that a large number of leukocytes in milk means a large content of streptococci, and they assert that the latter is always a consequence of mastitis, which disease appears to spread in some way unknown. They examined cows, which, as far as clinical evidence was concerned, were perfectly sound, and found that the milk of 19.5 per cent. thereof contained as much as 1 per cent. by volume of leukocytes. Doubtless, infection is spread by the milkers, and since mastitis makes milk dangerous and diminishes its yield, the strictest cleanliness on the part of the milker is necessary. The streptococci of the udder are especially dangerous to infants and young children.

According to P. G. HEINEMANN (author's abstract, The Pathogenicity of *Streptococcus lacticus*), *Streptococcus lacticus* is closely

related to *Streptococcus pyogenes*, not only morphologically and culturally, but also in pathogenic property. Its virulence is increased by repeated passages through rabbits, so that after five or more passages 2 c.c. of a twenty-four-hour-old culture produces death. The lesions produced in rabbits are the same in kind and extent as those produced by *Streptococcus pyogenes* obtained from pathological conditions in human beings.

Infantile Mortality and Goats' Milk.—The superiority of the goat over the cow in the matter of cleanliness (difference in character of excreta, disinclination to lie down in filth); its immunity to tuberculosis, as shown by the fact that not a single case of the disease has been observed among the hundreds of thousands of goats slaughtered at La Villette, in Paris; the greater digestibility of the curd, which is flocculent rather than hard, leads WILLIAM WRIGHT (*Lancet*, November 3, 1906) to advocate the use of goats' milk in place of cows' milk in infant feeding. He asserts that it is superior in nutriment and more suitable in every way; that its proportionate cost of production is far less; that the proportionate yield is far greater; and that if the animal is properly fed and restrained, the milk will have no odor.

Frequency of Tuberculosis in Dairies Supplying Paris.—According to H. MARTEL (*Revue de la Soc. scientif. d'hyg. aliment.*, 1906, ii, 559) of 628 cows whose milk constitutes part of the supply of Paris, 215, or 42.51 per cent., reacted to tuberculin. To avoid contagion at the cow-stable, he recommends the tuberculin test to prevent the introduction of diseased animals into a herd and periodical testing to discover and eliminate infected animals therefrom.

Cleanliness versus Pasteurization of Milk.—Concerning the comparative value of pasteurization of milk produced under ordinary conditions and of sterilization of the milk utensils and general cleanliness of production the experience of the Board of Health of Rochester, New York, as related by its Health Officer, GEORGE W. GOLER (*Arch. of Ped.*, September, 1906) is of great interest. During the quinquennium 1895 to 1900, children brought to the milk station were fed on pasteurized milk, and during the next same period they were given raw milk produced under sanitary conditions. In spite of increase in population due to natural increase and annexation, there were fewer deaths of children under five years of age during the latter period.

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