

Nongenetic nature of the action of the cord-inducing factor. Cells of H37Ra which have grown in a corded fashion in presence of the factor revert to the noncorded form when subcultured on medium free of the factor. This shows that activity of the factor does not induce any genetic changes in H37Ra.

Since H37Ra is incapable of multiplication *in vivo*, any virulence which might be associated with the altered morphology of H37Ra cells grown in the presence of the cord-inducing factor could be detected only by inoculation of massive amounts of corded H37Ra into a sensitive animal.

We were not able to carry out this experiment. In his report of a cord-inducing factor from chick embryos, Bloch (*J. Exptl. Med.*, **88**, 355-360, 1948) described such an experiment. The altered cells showed a low level of virulence.

Stocks of H37Ra and *M. epidermidis* were maintained as lyophilized cultures. In spite of this precaution, preparations of cord-inducing factor have varied in their activity. In recent months, this variability has become marked, and, in consideration of our inability to purify the cord-inducing factor, has influenced us to terminate this problem.

SEROLOGICAL TYPES OF *LISTERIA MONOCYTOGENES* OCCURRING IN THE UNITED STATES

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Within an eight-year period, 100 isolates of *Listeria monocytogenes* have been sent to the Communicable Disease Center for identification. Since no publication has come to our attention which reports the serological typing of a large number of human strains occurring in the United States, it was believed that this information would be of interest. The serological typing was performed in the Institute of Hygiene at the University of Bonn, Germany, since this service is not available in the United States.

Of the 100 strains typed, 42 were isolated from infants, 2 from children, 23 from adults, 26 from patients of unknown age, and 7 from animals. Table 1 shows the distribution of types and the numbers of cultures submitted by various States and the District of Columbia. Type 4b is found to be the most prevalent, occurring three times more often than type 1, the next most common type. (For world-wide distribution of types see Seeliger and Cherry, *Human listeriosis, its nature and diagnosis*, Monograph. DHEW, USPHS, CDC, 1957.)

Listeriosis is a fairly common disease in cattle and sheep, and it is being recognized with increasing frequency in man as is indicated by the greater number of case reports published. (Seeliger, *Listeriose*, 2nd ed. J. A. Barth, Leipzig, 1958.) That a large proportion of bacteriologically

TABLE 1
Type distribution of strains from various States and the District of Columbia

Location	Total No. of Strains	Type			
		1	3	4a	4b
Connecticut.....	3	2			1
District of Columbia.....					3
Florida.....	4				4
Georgia.....	8	1			7
Illinois.....	5	1			4
Louisiana.....	27	10	1	2	14
Maryland.....	4	1		(1)*	2
Michigan.....	3				3
Missouri.....	3	1			2
Nebraska.....	4	(2)		(1)	(1)
New York.....	3	1			2
North Carolina..	6	1			4 (1)
Pennsylvania....	5	2			3
Tennessee.....	3				
Others†.....	19	3			14
Totals.....	100	24	1	4	71

* Numbers in parentheses indicate animal isolations.

† These states submitted 1 or 2 strains: Alabama, California, Indiana, Kentucky, Massachusetts, New Jersey, New Mexico, Ohio, Oklahoma, Rhode Island, Texas, Virginia, West Virginia, and Washington.

proved cases fail to appear in the literature is borne out by the fact that of 93 human strains reported here so far, only 14 have appeared in a publication as case histories. If the number of cultures submitted to this laboratory can be taken as an index of the frequency of the isolation of this organism, the following figures will support the contention that listeriosis is being recognized

more frequently in man. In the five-year period from August 1949 through August 1954, only 22 cultures were submitted for identification. In the next three years, 66 cultures were received. It is not known whether this is due to an actual increase in the number of human cases or whether the organism is now more frequently recognized rather than being discarded as a contaminant.