

## Cutaneous Reactions to Johnin and Tuberculin in Patients with Cicatrizing Enteritis.

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The possibility of a relationship between Johne's disease of cattle and human cicatrizing enteritis has been suggested.<sup>1</sup> Johne's disease affects domestic animals, principally cattle, and is characterized by granulomatous lesions of the intestines, lymph nodes, and occasionally the liver.<sup>2</sup> These lesions resemble those of cicatrizing enteritis<sup>3</sup> or the regional ileitis described by Crohn and many others,<sup>4</sup> except for the constant presence of numerous acid-fast bacilli chiefly in the lesions. These bacilli are generally accepted as the cause of Johne's disease.<sup>5</sup> From bacilli grown on a synthetic medium which contains no bacterial products, a sterile filtered extract known as Johnin is prepared.<sup>6</sup> Animals infected with Johne's bacilli react with a rise in temperature to subcutaneous injections of Johnin or avian tuberculin, but not to human tuberculin.<sup>7</sup> Animals infected with human tubercle bacilli may or may not react to Johnin.<sup>8</sup>

To detect a possible relationship between Johne's disease and cicatrizing enteritis, intracutaneous injections (0.1 cc.) of Johnin, old tuberculin, and 4 control substances were given on the volar surface of the forearm to 5 patients with cicatrizing enteritis diagnosed histologically after operation, and to 5 normal adults. The Johnin was prepared by the U. S. Bureau of Animal Industry. The medium and method of preparation were those used in the manufacture of tuberculin. The concentration was half that of old tuber-

<sup>1</sup> Cutler, E. C., personal communication.

<sup>2</sup> Hallman, E. T., and Witter, J. F., *J. A. V. M. A.*, 1933, **83**, 159; Johne and Frothingham, *Deutsche Z. f. Tiermed.*, 1895, **21**, 438; Matthews, F. P., *J. A. V. M. A.*, 1930, **76**, 248; M'Fadyean, Sir John, *J. Comp. Path. and Therap.*, 1907, **20**, 48.

<sup>3</sup> Dalziel, T. K., *Brit. Med. J.*, 1913, **2**, 1068.

<sup>4</sup> Crohn, B. B., *et al.*, *J. A. M. A.*, 1932, **99**, 1323; Homans, John, and Hass, George M., *New England J. Med.*, 1933, **209**, 1315; Brown, P. W., *et al.*, *Proc. Staff Meet., Mayo Clin.*, 1934, **9**, 331; Ravdin, I. S., and Rhoades, J. E., *Ann. Surg.*, 1937, **106**, 394.

<sup>5</sup> Stableforth, A. W., *A System of Bacteriology*, 1930, **5**, 333, Medical Research Council, London.

<sup>6</sup> Dunkin, G. W., *J. Comp. Path. and Therap.*, 1933, **46**, 59.

<sup>7</sup> Hagan, W. A., and Zeissig, W., *J. A. V. M. A.*, 1929, **74**, 985.

<sup>8</sup> Turner, H. W., *J. A. V. M. A.*, 1928, **72**, 1036.

culin.<sup>9</sup> Reactions to horse serum 1-100, bovine serum 1-100, Frei antigen, and 0.85% saline were negative in every subject except No. 9 (horse serum, 96, and bovine serum, 6). Observations were made at the end of 20 minutes, 8, 24, and 48 hours. Maximal reactions had occurred within 48 hours, and their tabulated size was obtained by multiplying the length by the breadth in cm. of the zone of definite erythema.

TABLE I.

	Patients					Normal Controls				
	1	2	3	4	5	6	7	8	9	
Johnin (undiluted)	82.5	15.0	12.6	24.0	0	22.75	0	.25	0	32.0
Old tuberculin 1-1000	42.5	3.6	2.25	1.04	0	1.5	0	.06	0	.25

These results reveal no relation between non-specific regional enteritis and cutaneous sensitivity to Johnin. Whether the sensitivity to tuberculin associated with sensitivity to Johnin is due to similar components of Johne's and tubercle bacilli or to a non-specific reactivity of tuberculous individuals as described by Hart<sup>10</sup> is a question which awaits further study.

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## Gonadotropic Extracts from the Leaves of Young Oat Plants.

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By the use of the Katzman-Doisy benzoic acid procedure it was found possible to obtain gonadotropic extracts from alfalfa leaf meal.<sup>1</sup> It was, however, difficult to obtain active extracts uniformly from commercial samples available, and it was not found possible to arrange for a dependable supply of alfalfa meal of known age and history. The work of Schnabel<sup>2</sup> on the biologic value of im-

<sup>9</sup> Giltner, L. T., U. S. Bureau of Animal Industry, personal communication.

<sup>10</sup> Hart, D., *Quart. J. Med. N. S.*, 1932, 1, 49.

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<sup>1</sup> Friedman and Friedman, *Proc. Soc. Exp. Biol. and Med.*, 1934, 31, 842.

<sup>2</sup> Schnabel, C. F., read before the section on biology of the Am. Chem. Soc., New York, April 22, 1935.