PAROTIN AND MURINE LEPROSY

In this issue are three copied abstracts of articles by Tomo Yukawa on the influence on rat leprosy of parotin, a salivary gland hormone. One observation was the conversion of the usual leproma into a bacillus-poor tuberculoid lesion, a unique development of potential significance. [See also the abstract by Akazaki *et al.*] Since the abstracts were not entirely clear, and the original articles are in Japanese, Professor Kitamura was asked to clarify the matter. It turns out, for one thing, that the author is a woman and a religious Sister.—EDITOR.

TO THE EDITOR:

The studies of Dr. (Sister) Tomo (Philomena) Yukawa were aimed to determine the influence of parotin upon the development of murine lepromas. Parotin, a salivary gland hormone isolated from the parotic glands of cattle, is regarded as necessary for the growth and nutrition of the mesodermal tissue system. Its deficiency (i.e., "asialadenism") lowers the activity and functions of the mesodermal system, while its superabundance (i.e., "hypersialadenism") accelerates the activity of that system. Now, Sister Yukawa made her observations on the basis of T. Ogata's interpretation of the so-called mycobacterioses (tuberculosis, human and murine leprosy). He, for the first time, paid attention to the functions of salivary glands as one of the endocrine glands.

According to Ogata, the histopathologic changes due to the mycobacteria are divided into three phases which develop one after another: (1) symbiotic, (2) exudative-necrotizing, and (3) granulomatous. In the symbiotic phase, bacilli are phagocytized by histiocytes as seen in the human and murine lepromas. However, they not only exist, but also multiply, within the cytoplasm of histiocytes: symbiosis of bacilli and cells. The exudative-necrotizing phase comprises all exudative-inflammatory changes as seen in exudative tuberculosis and erythema nodosum leprosum. The granulomatous phase develops histologic changes such as the productive phase of tuberculosis, and tuberculoid leprosy, i.e., epithelioid granulomas having Langhans' giant cells and lymphocytic cell infiltrations.

In the first of Sr. Yukawa's reports, the two groups of rats used had had the salivary glands (parotic and submental) removed surgically. Both groups were then inoculated with murine lepra bacilli. After that one group was injected daily with parotin (0.3 mgm./100 gm. body wt.). The second report tells of the murine lepromatous changes in three groups of animals: (1) a group of normals injected with parotin (hyperasialadenism) which group showed strong inhibition as compared with (2) the control group of normal rats; the third group, whose salivary glands had been removed previously (asialadenism), showed the most marked changes. So, the influence of parotin upon the murine lepromas is shown by the following formula: asialadenism < normal < hyperasialadenism. These studies were summarized by Ogata, with some pictures, in a paper read at the Tokyo Congress (*Transactions* pp. 115-117).

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