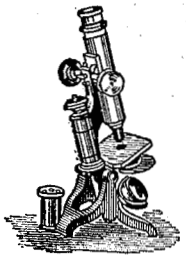
Medical Matters.

DEFINITION OF THE WORDS PTOMAIN AND TOXIN.



The *Indian Medical Record* considers that there is a lack of clearness in the definitions given by text books and dictionaries of the words *Toxin* and *Ptomain.* It, therefore, appends the following definitions which seem to give the distinctions:

Ptomain (corpse). A basic nitrogenous compound, resembling the alkaloids, produced by the action of bacteria on organic matter. As they are usually formed in putrefactive processes, ptomains have also been termed putrefactive alkaloids. Some are poisonous; many are not.

Toxin (poison). 1. Any poisonous nitrogenous compound produced by animal or vegetable cells. 2. Any poisonous substance, proteid in nature, produced by animal or vegetable cells; also called toxalbumin.

The true nature of the latter is unknown; although most of them give the reactions of albumoses or other proteid bodies, they have never been isolated in a free state. They are uncrystalizable, are soluble in water, are dialyzable, and are destroyed by heat. Some of them behave as if they were of a ferment or enzyme nature.

Toxin, animal.—One produced by the metabolic activity of animal cells, as snake-venom.

Toxin, bacterial.—One produced by the metabolic activity of bacteria, as diphtheria-toxin.

Toxin, extracellular.—A bacterial toxin elaborated by a micro-organism and thrown off into the surrounding medium. The majority of the best known toxins are extracellular.

Toxin, intracellular.—A bacterial toxin contained in the bodies of the bacteria themselves.

Toxin, vegetable.—1. Any toxin produced by vegetable cells. 2. Specifically one produced by higher plants, as ricin (produced by the castor-oil plant), abrin (produced by the jequirity plant).

CLASSIFICATION AND ETIOLOGY OF DYSENTERY.

Dr. Flexner, discussing the classification and etiology of dysentery, sums up our present knowledge by stating: (1) That no bacterial species yet described has the especial claim of being regarded as the chief micro-organism concerned with the disease; (2) It is not likely that any bacterial species normally present in the intestine or environs of man, except where the disease is endemic, can be regarded as the probable cause of epidemic dysentery; (3) the relations of sporadic and epidemic dysentery are so remote that it is improbable they are produced by the same cause; (4) the pathogenic action of the Amœba coli in certain examples of tropic and sporadic dysentery has been disproved by the discovery of the amœba in the normal intestine. Amœba are commonly present, and are concerned with the production of the lesions of subacute and chronic dysentery. They have yet to be shown to be equally connected with the acute dysenteries, even in the tropics. Dr. Shiga has made a careful bacteriologic study of Japanese dysentery. From his cases examined a bacillus was isolated which fulfilled the requirements of a causative agent of this form of dysentery. Dr. Flexner during three month's residence in Manila, carefully studied the dysentery of the Philippine Islands. He describes two main forms of the disease—acute and chronic. Amœba were not found in the stools. In chronic, ulcerative forms they were variable in number. Upon bacteriologic examination Dr. Flexner isolated two types of organism found especially in the acute cases. The first organism is a bacillus, somewhat of a colon-typhoid type, with peculiarities of growth described. This gave the agglutination test many times with the blood of persons suffering from the disease, whether the host or another individual. Type two present in all cases. Its properties agree with that of B. coli communis. With this organism the agglutination test was frequently positive with the host and rarely with other individuals. This organism was found to be absent from healthy dejecta or in the stools of the natives suffering from beri-beri. Dr. Flexner concludes this bacillus to be identical with that described by Dr. Shiga. The results with the agglutination test were positive in cases of the acute disease in which infection with the bacilli was established. It was also present in a case of Porto Rigan chronic dysentery, but was inconstant with blood from other chronic cases. With several cases of chronic amœbic dysentery under Dr. Osler's care the test was negative. As to treatment, Dr. Flexner expects great benefit from a species of vaccination and witnesses the effect of injecting the dead bacilli in cholera. The method and details will have to be carefully evolved.

previous page next page