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## Medical Matters.

## THE SIGNS AND SYMPTOMS OF PLAGUE. By James Cantlie, M.B., F.R.C.S., D.P.H.

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The Circulatory System.— The pulse, increased in frequency from the first, gains in rapidity as the disease progresses. At first full and tense, it fails after a day or two and becomes soft and compressible and finally dicrotic or running in fatal cases.

The *heart* beat at the apex is more diffuse than normal; and a præcordial thrill may be occasionally felt. The right side of the heart shows evidence of dilatation; the first sound of the heart is short and the second feeble; a systolic murmur is occasionally present. Pulsation of the carotids is frequently apparent.

The respiratory system.—In bubonic plague it is the exception to find any lesion of the organs of respiration. Should bronchial or pulmonary symptoms develop, they seldom occur before the fourth or fifth day, and usually immediately before death. The lung affections peculiar to the pneumonic type of the disease are discussed under "pneumonic plague."

The urinary system—In some epidemics it is the rule to find a trace of albumen from almost the onset of the disease; in other outbreaks, however, few urinary derangements occur. The urine is always scanty, especially at the onset of plague, the specific gravity is high, and the reaction intensely acid. Urea, uric acid and chlorides are deficient in amount; granular casts are not infrequent, and blood in some quantity is occasionally met with. In all cases retention of urine is the rule, but actual suppression may complicate the illness in fatal cases.

The nervous system.—From the onset of plague the mental faculties are affected. The pain-drawn, haggard expression of countenance would seem to indicate that the patient is suffering from pain probably arising from glandular swellings. This speedily gives way to, or may be wholly supplanted by, a peculiar listlessness and apathy of feature well-nigh characteristic of the disease. Delirium may, on the other hand, usher in the disease, accompanied by what would appear to be a suicidal

tendency, inasmuch as the patient may rush to the verandah or widow, to the staircase, or out into the street. The outburst is, however, unattended with any fixed idea or purpose. If gently restrained the patient is soon turned from his apparent purpose, and his aimless intention may assume the form of wandering in the street or taking passage by train to an uncertain destination. It would appear by the answers to questions that the patient is sensible, but his statements are frequently untrue, the memory being at fault. Deafness, thickness of speech, laryngeal paralysis, muscular tremor, loss of co-ordination in almost any group of muscles are common features in the disease.

Sleeplessness is a distressing symptom, and of so constant an occurrence as to constitute one of the most trying conditions to deal with. In fatal cases, picking at the bed clothes, busy delirium and coma prevail, and usually herald death.

The cutaneous system.—Petechiæ occasionally appear, especially in fatal cases, over the seat of the bubo or on the limb affected by the bubo, or still more rarely on other parts of the body or limbs.

Subcutaneous hæmorrhage of an extensive character may occur around a bubo, or smaller hæmorrhages may develope elsewhere. Small patches of skin may slough, buboes suppurate, leaving foul, deep, ulcerated surfaces with ragged edges. Boils and so-called carbuncles are exceptional and a distinctive rash is very uncommon; when a rash occurs it closely resembles the rash of typhus.

The Lymphatic System. - The toxic agency in plague seems to expend its virulence largely on the glands. Although a bubo may be apparent in only one region of the body, post mortem examination reveals the fact that almost every gland in the body is swollen. Buboes occur most frequently in the groin, and the order of frequency with which buboes appear in the groin, axilla, and neck, stand at 50, 30, and 15, in every hundred cases which show buboes. The bubo may appear at the onset and may be present even with the initial rigor; more usually, however, it does not develope until the second day, when it will be found as a large, smooth, bun-shaped swelling. On palpation it feels resilient and rather elastic and resistant. The bubo may disappear, but suppuration is the rule at the seventh to the ninth day of the illness. The glands in the neighbourhood of the bubo are obscured and incorporated in the

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