

Pain

Pain is present in nearly every diseased condition at some period, and there is no symptom which is more important from the patient's point of view nor any which is of greater moment in diagnosis.

DEFINITION.—Pain is an impression conveyed to the brain by a certain kind of nerve fibres on the stimulation of those fibres by harmful agencies. For pain to be appreciated it is necessary for the brain to be able to perceive, and the nerve to convey the impression. If the function of either brain or nerve be suspended, the capacity of feeling pain is lost. That the sensation of pain is carried by special nerve fibres is proved by the fact that in a disease of the spinal cord called syringomyelia, pain sensation is lost, though some other sensory functions are retained. Nevertheless, over stimulation of any sensory nerve produces pain, *e.g.*, an extremely bright light, or a piercing sound causes actual pain, though the optic and auditory nerves serve only the functions of sight and hearing.

MODE OF PRODUCTION OF PAIN.—The manner in which the nerves which convey the sensation of pain are stimulated is mainly by mechanical pressure or stretching, as in injuries and the pain caused by inflammatory exudations; but pain may also be excited by chemicals, and by toxic substances circulating in the blood.

CAUSES OF PAIN.—These are broadly injury and disease, usually in the part where the pain is felt. It must not be forgotten, however, that in referred pain, to which allusion will be made later, the pain may be felt as a part distant from the source of trouble. And further, it has to be understood that just as the brain may have misinterpretations and imaginings in regard to the special senses, seeing things that do not exist, and hearing sounds that are not uttered, it may also have hallucinations of pain. There may be sensation of pain which is not produced by any cause in the part which the individual believes the pain exists. As such pain is not the result of any stimulation of the peripheral nervous system, but depends upon some disorder of the central nervous system, we speak of it as central pain.

Centrally produced pain is not uncommon, and is a great stumbling block in diagnosis and treatment. It is particularly frequent in subjects of neurasthenia.

USES OF PAIN.—The use of the sense of pain is threefold. First, to give warning of things that are hurtful, that they may be avoided; second, to call attention to injury that has occurred or disease that has begun; and third, to compel that rest to the diseased or injured part which is required for its recovery.

EFFECTS OF PAIN.—Severe pain, and pain which though perhaps not severe is long continued, have untoward effects upon the body apart from the condition causing the pain. Pain is a great factor, possibly the chief factor, in the production of shock. In a severe injury or operation the reception of painful impressions by the brain causes great depression of the activities of the vital nerve centres, primarily of the vaso-motor centre, which causes that dangerous and collapsed condition we know as shock. Long continued pain causes alteration in the nervous system, so great perhaps as to change the disposition of the individual from a normally cheerful, placid character to a fretful, irritable, suspicious nature. Chronic pain is one cause of neurasthenia, which in that case may be looked upon as chronic shock, and the treatment of the nervous condition should begin with the treatment of the condition which is the cause of suffering.

SENSIBILITY TO PAIN.—The acuteness of the perception of pain varies greatly in different races and different people, apart altogether from fortitude under pain. Just as some people have greater visual acuity or greater delicacy of the sense of touch than others, so some have greater capacity for feeling pain than others. The black races on the average do not appreciate pain as do the white. Generally speaking the lower the race the less the sense of pain, and the more cultured, the higher the brain development, the keener the sense becomes. Lunatics often show scarcely any discernment of pain.

Different tissues and parts of the body also vary in their susceptibility to pain. The fingers, especially about the nail roots,