W. K., male, aged 52, Hungarian, has lived in America about three years. Before coming to this country, patient had been a butcher. Since coming here he has worked most of the time as a cigar-maker. Clinically, he presents incipient pulmonary tuberculosis. Patient has been disturbed by his lung condition only for a short time, but gives an indefinite history of cough with expectoration, going back eight years. He also presents a warty induration covering about two-thirds of the middle fingers of the right hand. He states that this has existed for five and one-half years. This lesion was referred to a skin specialist who believed it to be tuberculosis verrucosa cutis.

With suitable precautions to avoid contamination of the sputum with milk products, and to remove any sputum contamination from the finger, specimens were collected for examination.

The sputum infected guinea-pigs in the usual way, and the culture recovered was of the usual human type of *Bacillus tuberculosis*. The sputum was also inoculated into rabbits, but gave rise to local tuberculosis only.

The tissue from the finger gave rise to generalized tuberculosis in both guinea-pigs and rabbits. The cultures recovered were of the usual bovine type.

Conclusion: There exist in this patient at one and the same time a chronic pulmonary tuberculosis due to the human type of tubercle bacillus, and a tuberculosis verrucosa cutis due to the bovine type of organism.

The important features of this case and their significance for the larger problems of tuberculosis may be briefly stated: It is fairly certain that the finger infection has existed for five years and that it was acquired from cattle in connection with the man's occupation of butcher. The culture recovered is fully virulent and presents no other point of distinction from the usual bovine type. It may be regarded as unmodified by five years' residence in the human body.

It is also fairly certain that the infection on the finger has followed the usual course of this type of infection, seemingly influenced by the coincident infection in the lungs. This, if it could be considered established fact, would be of considerable importance as throwing light on the essential significance of the phenomena displayed by superinfections. While it is quite probable that the lung disease has existed for a longer time than the lesion on the finger, and that the latter has still not been influenced by the former, the point must unfortunately be left in doubt, owing to the incapacity of the patient to give a precise and reliable history.

This case was presented before the Philadelphia Pathological Society, October, 1912. My thanks are due to Dr. H. R. M. Landis of the Phipps Institute, who called my attention to the case, and to Dr. Frank C. Knowles, who gave a specialist's opinion on the skin lesion.

238 Pine Street.

MYOSITIS OSSIFICANS TRAUMATICA

WILLIAM E. STEVENS, M.D., SAN FRANCISCO

Myositis ossificans is a pathologic condition characterized by the formation of bone in or between the muscles. There are two forms, the progressive, in which ossification successively occurs in many parts of the muscular system, and the traumatic, which is limited to one muscle or group of muscles. The following is an unusual case of the latter type:

The patient is a sheet-metal worker, aged 50; a native of Germany. His father died at the age of 60 after having suffered from a cough for years. The family history is otherwise negative. The patient has never been sick except for an attack of mumps fifteen years ago and occasional colds of short duration. He denies venereal disease and has used very little liquor. In 1869 when 7 years old he was struck on the calf of the leg by a heavy timber. After this injury he began to walk on his toes and has done so ever since so that at the present time there is a talipes equinus with the usual deformity of the bones of the foot. About ten months after the injury the calf of the leg became swollen and tender, discharging pus after several weeks' poulticing. Four or five sinuses formed, one of which remained open for six months. The patient was well until June, 1910, forty-one years later, when the original sinus again broke open, discharging a small amount of greenish pus. He came to me in February, 1911, stating that the leg had been dressed for eight months but refused to heal. At that time there was a large ulcer on the calf of the leg, a discharging sinus, a talipes equinus and extreme atrophy of the muscles of the leg and thigh. The Wassermann and tuberculin tests were negative. On probing, bone could be felt at the bottom of the sinus. A piece of this was removed and on microscopic examination proved to be calcified fibrous tissue.

In this case there is no connection between the new bone and the normal bones of the part. Other unusual features are the great length of time intervening between the original injury and the formation of the recent sinus, and also the talipes equinus.

The etiology of the progressive form of myositis ossificans is unknown. In the traumatic type the majority incline to the belief that together with an abnormal tendency to bone formation the resistance of the muscles to irritation is low owing to some predisposing congenital factor. Some consider the condition due to the inclusion of fetal tissue. Others think that in many cases bone cells may have become detached from the periosteum and carried into the general mass of muscle by the retraction of some separated muscle fibers.

The exciting influence is either a single severe injury or frequent and long-continued irritation and excessive use, as in the rider's bone of the adductor magnus, the fencer's bone in the brachialis anticus, the dancer's bone in the Achilles tendon and the gunner's bone in the pectoralis major. Other muscles affected are the quadriceps extensor femoris, deltoid, masseter, biceps, triceps, subclavius and iliacus.

Many cases of so-called myositis ossificans traumatica are merely instances of exostoses.

Therapeutics

DISTURBANCES OF THE HEART

(Continued from page 127)

CORONARY SCLEROSIS

While disease of the coronary arteries may occur without general arteriosclerosis, it is so frequently associated with it that it is necessary to give a brief description of the general disease. Arteriosclerosis or arteriocapillary fibrosis is really a physiologic process naturally accompanying old age, of which it is a part, or the cause, and it should be considered a pathologic condition only when it occurs prematurely. It may, however, occur at almost any age after 30, and is beginning to be frequent between 40 and 50. In rare instances it may occur between 20 and 30, and even in childhood and youth. It is much more frequent in men than in women. Its most common cause is hypertension; in fact, hypertension generally precedes it. The most frequent cause of hypertension to-day is the strenuousness of life, the next most frequent cause being the toxins circulating in the blood from overeating, overdrinking, overuse of tobacco and the overuse of caffein in the form of coffee, tea or caffein drinks. Another common cause of arteriosclerosis occurring too early is the occurrence of some serious infection in an individual, typhoid fever and sepsis being most frequent. Syphilis is a frequent