

the possibility of Friedreich's ataxia. I found in the literature that this condition at times resembles atypical multiple sclerosis. With great difficulty I arrived at a conclusion and, even when I finally decided on a diagnosis of multiple sclerosis, I stated to the medical class before which I presented the case that there was a possibility of an error since I had found that eminent clinicians had erred in differentiating this disease from several other diseases which it may closely simulate.

DR. CHARLES W. HITCHCOCK, Detroit: If I understood Dr. Mettler correctly, he restricts the term "multiple sclerosis" to a quite typical syndrome, and yet he has pointed out adequate reasons from the pathology of the disease why multiple sclerosis should be distinctly atypical. It does not seem to me that we should expect this disease to present typical symptoms and typical development; nor should we shrink from the diagnosis if it be difficult and somewhat uncertain, as we do not shrink from the diagnosis of syphilis of the nervous system. The varying signs of sclerosis, varying from the location and size of the pathologic lesions, would seem to indicate an atypical disease; therefore, I do not see why we should reserve the term "multiple sclerosis" for the typical syndrome if we have in mind the pathology of anything which develops atypically. It is a risky business, perhaps, for me to speak without having had any pathologic proof of some of my diagnoses, but I have had a number of cases, diagnosis of which I have been able to reach by such exclusion methods as Dr. Grinker has mentioned. These cases have been extremely atypical. I recall three in the past year, in each of which I was forced to a diagnosis of multiple sclerosis, but no one of which conformed to any cardinal type of the disease.

DR. L. HARRISON METTLER, Chicago: In reply to Dr. Camp I will confess that for the moment I did forget what everybody nowadays knows, that a cytologic and serologic examination of the spinal fluid will determine the presence of the syphilitic infection. There may be other infections present, however, which such an examination will not aid us in establishing. I agree, in the main, with Drs. Grinker and Hitchcock that multiple sclerosis can be diagnosed by exclusion; yet a diagnosis by exclusion is always largely a makeshift, and, although we are sometimes forced to do this, it is always a most desirable thing to avoid making a diagnosis in this way. Too often multiple sclerosis, like hysteria and neurasthenia, is made a sort of waste-basket into which is thrown everything which by exclusion cannot be diagnosed as some other malady. The literature is full of these uncertain diagnoses of multiple sclerosis, and this is the reason that I have presented this paper on the symptomatology of the disease. These diagnoses by exclusion, of which the literature is so full, are in most cases no diagnoses at all, or at least are so unreliable as to render the reported cases practically worthless in forming statistics as to the frequency of the disease. A frank confession that no diagnosis is possible is usually safer and more scientific than the average diagnosis by exclusion.

Reticence of Physicians Regarding Fee-Division.—"It is evident," observes the *Journal of the Indiana State Medical Association*, "that a large proportion of the general physicians and no small number of surgeons prefer not to discuss the fee-splitting proposition. The reason is obvious. No man who is possessed of good moral fiber will defend fee-splitting as ordinarily practiced, and the man who gives or accepts a commission, which almost invariably is a secret transaction and therefore a species of graft, avoids discussion of the subject. If unwillingly he is forced to express an opinion he eases his conscience by trumping up an argument, based on false premises, concerning his desire to be a party to a 'square deal.' . . . Fee-dividing among medical men always has been and always will be a commercial proposition which has no place among ethical and honorable physicians. It started through covetousness on the part of certain unsuccessful surgeons who desired more business and incidentally more income, and was accepted by certain general physicians, not as their due but as 'easy money.'"

THE REMOTE EFFECTS OF LESIONS OF THE PROSTATE AND DEEP URETHRA *

THOMAS McCRAE, M.D., F.R.C.P. (LOND.)

Professor of Medicine, the Jefferson Medical College; Physician to the Jefferson and Pennsylvania Hospitals

PHILADELPHIA

To the genito-urinary surgeons we are indebted for the great advance in our knowledge of the nature, frequency and importance of lesions of the prostate and deep urethra. Much of this is important only as regards the local disease, and with this we are not here concerned; but in some cases there are many secondary results important to recognize from the point of view of general medicine. One of the lessons usually driven home more by our own mistakes than by the instruction of others is the recognition of the frequency with which disturbance—organic or functional—in any system or organ is due to derangement elsewhere. The locality of symptoms is not of necessity the seat of disease. The importance of recognizing that gastric disturbance may be caused by chronic disease of the appendix or by gallstones is a good example. It is to some of the disturbances secondary to disease of the prostate and deep urethra that attention is here drawn. There is no intention of encroaching on the domain of the genito-urinary surgeon; the desire is to emphasize the importance to general medicine of the lessons of their work. We have been slow to profit from their advances.

It is perhaps an advantage to divide the disturbances into functional and organic, using the former term in its usual significance. For example, as a result of inflammation of the verumontanum there may be a general nervous disturbance, while secondary to an infection of the prostate—such as with the gonococcus—there may be arthritis. It is convenient to discuss the results of the lesions of the prostate and urethra under the various systems, as this may emphasize the variety and importance of the disturbances.

DISTURBANCES OF THE GENERAL NERVOUS SYSTEM

There is no need of pointing out the importance of a thorough study of every patient with general functional nervous disturbance in order to determine the cause, if this be possible. In these patients experience has taught the necessity of a thorough search in order to exclude the existence somewhere of organic changes before making a diagnosis of neurasthenia. Take for example the necessity of excluding hyperthyroidism. More careful study of patients with general functional disturbance—call it what you wish, neurasthenia or psychasthenia—shows the frequent coexistence of some local disease with the general disturbance. In helping these patients back to health both the local disorder and the general condition require attention, as a rule; sometimes relieving one is enough, but care of both usually gives better results.

Without discussing all the etiologic possibilities of general nervous disturbance, about which there is enough dispute, all that is desired here is to draw attention to the importance of prostatic and urethral lesions as one factor in causing general nervous disturbance in males. Every one used to dread the problem of handling patients with so-called sexual neurasthenia. On many of the profession they have a peculiarly irritating effect and there are few of us who have not had difficulty in keeping our tempers when dealing with them. What has

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

more thorough examination of the genito-urinary system of many of these patients taught? In a considerable number the cause—or the determining cause—is found in some local disease, correction of which results in a restoration to proper function and good health. It is not suggested that all such general disturbances in males are due to such local conditions, but certainly many of them are. Careful inquiry regarding and examination of the genito-urinary system should be made in every case of nervous disturbance in the male. Systematic inquiry is often necessary as the usual history may fail to elicit any information on the subject. Why this should be is a question not always easy to answer; probably the explanation lies in the effort to put out of consciousness the thought of disturbances in the sexual sphere. This seems more likely than concealment done purposely.

The account of a case of this kind may aid in showing the results which may follow such local lesions.

History.—The patient, aged 25, a clerk, complained of marked cardiac disturbance and severe gastric trouble. He had had the ordinary diseases of childhood, but no serious illness, and there was no history of cough or shortness of breath. The appetite was good; the bowels were usually constipated and had been so for many years. There was no history of urinary trouble or venereal infection. He had used very little tobacco and had never taken alcohol.

Present Illness.—The trouble dated back over a period of five years. The patient had been worried by constant gastric distress which was most marked for about one hour after each meal. There was no pain or vomiting, but he was greatly troubled by acid eructations. With this he had suffered a great deal from disturbance of the heart-action, which nearly always accompanied the gastric disturbance. There had been marked cardiac palpitation, and at times the heart-action was so violent that he was unable to do any work and would have to lie down for an hour or two. With this his general nervous condition had been much disturbed. His attention was constantly fixed on his heart, and when the action was very forcible he felt much mental disturbance and alarm. He was ambitious and anxious to advance in business, in which he had good prospects if he could keep at work, but these symptoms made him practically useless so far as efficiency was concerned. With these disturbances there was constant apprehension and anxiety. The appearance of a visitor in his office, or any little disturbance, gave him the fear that his heart would be disturbed, and naturally his fears were often verified.

Examination.—The patient was thin, extremely nervous and restless. The pupils were large and the skin reactions were active. The action of the heart was vigorous and at times one would have said that there was a systolic shock at the apex. There was no enlargement and the sounds were clear. There was no arteriosclerosis and the blood-pressure was 115. The pulse-rate varied from 72 when the patient was at rest, to 130 during excitement or gastric disturbance. The reflexes generally were increased. The urine was clear. A test-meal showed marked hyperacidity. The lungs and abdomen showed no abnormality.

Treatment and Course.—The patient spent some weeks in the hospital and with rest and treatment of the hyperacidity showed considerable improvement. He did not seem to gain so much as one would expect, but he was discharged in considerably better condition and with a good gain in weight. He was able to take up his work. After about three months, however, he was back to his previous state and he returned for further examination a year later. In the meantime I had had some lessons in regard to the importance of lesions of the genito-urinary tract and looked into this on the subsequent visit. It was found that the patient had marked inflammation of the verumontanum; this was treated locally with the most remarkable result. He began to improve at once

and within a few weeks the whole picture had changed. He had gained weight, the heart symptoms had disappeared and the digestive disturbance occurred only occasionally.

One might quote histories of this sort at considerable length, but they differ only in detail, the important fact being that the general disturbance may be determined, apparently, entirely by the local trouble, the correction of which, with such other measures as are required, results in improvement of the whole individual. This paper is not concerned with a discussion of the cause of the disturbance. In some persons any local trouble may produce an effect apparently out of proportion to the cause. In some a disturbance in the sexual sphere may have a pronounced influence on the whole individual.

In many of these patients a predominant feature is the condition of anxiety for which, on the surface, no cause is found. This is in agreement with the frequent occurrence of anxiety neuroses in disturbances in the sexual sphere. In several patients the symptoms have been referred especially to the heart—palpitation, rapidity of rate, attacks in which with precordial distress there was tachycardia, and attacks of pain simulating angina pectoris, have all been seen. As a rule, severe distress, feelings of apprehension, and marked anxiety accompanied these. A patient, seen recently, came with a diagnosis of angina and a gloomy prognosis; disease both of the prostate and deep urethra was found; local treatment has produced a remarkable effect and he is entirely free from attacks, has gained weight and is able to attend to his business as usual. Naturally general measures, as well as local, were adopted, but the definite diagnosis and a changed prognosis probably had much to do with the rapid improvement.

The recognition of the cause in such cases is essential to proper treatment, for, without this, the patients go from one physician to another, finally perhaps giving up all hope of recovery. A discussion of the relationship between cause and effect in these cases would lead us far afield. Of the close association in many cases between disturbances in the sexual life and general nervous derangement there can be no question. One may ask if it is probable that a man with a perfectly normal nervous system to begin with can be upset nervously by such a local trouble. The definition of what is normal may cause difficulty, but a person normal to all ordinary appearances can be so upset. The results following proper treatment also support the view as to the importance of the local lesion, and when one sees rapid restoration to good health after correction of the local trouble it is difficult not to feel that this, at any rate, played a large part. In some of the cases with a tendency to general nervous disturbance and some local trouble it seems as if the latter condition is enough to disturb the balance. Correct it and the whole individual may be restored to health. Whether or not those who are thus upset deserve the description of normal may be a question, but it is one which does not concern us here.

REFERRED PAINS

In the whole study of pain we have constantly to be on our guard not to be misled in diagnosis by the seat of the pain complained of by the patient. This applies particularly to pain referred to the legs because there are so many possible causes for it, and it is too often and too easily dismissed with a diagnosis of sciatica or "rheumatism." It is important to recognize that with disease of the prostate or deep urethra there may be referred pains in many localities. The great variety of these is well brought out by Young, Geraghty and Ste-

vens¹ in a discussion of chronic prostatitis. A large proportion of their patients had pain in the lower back which is easily called "lumbago"; in others it was referred to the region of the kidney and, particularly important, in some cases it simulated the pain of renal colic so closely that a diagnosis of renal calculus had been made and the patients referred to Dr. Young for operation. Three patients had been operated on for a supposed renal calculus. A number of patients had pains referred to the groin, perineum, rectum and testicles. In some it was referred to the legs, in some to the thigh, in others to the knee; in several it had been regarded as sciatica. In others there were disagreeable sensations referred to the rectum, perineum and genital organs.

There are many regions to which these pains may be referred, but of special medical importance are those of the abdomen, the back, the kidney, the perineal and anal regions, and down the legs. Pain referred to the perineum or genitalia suggests some local trouble. It is with those referred elsewhere that error may arise. There is no regularity in their distribution; they may choose any location. Complaint is sometimes made of pain over the great trochanter on one or both sides, and this may have continued for a long time. In some cases the pain is referred to the back or to the sacro-iliac joint, and a hasty judgment may decide on disease of the vertebrae or sacro-iliac joint as the cause. The pain is often referred to the thighs, sometimes on the inner side, sometimes on the outer part and sometimes along the course of the sciatic nerve. A detailed discussion of these referred pains is not possible here. In the abdomen, renal colic or intestinal colic may be simulated. One patient complained of very severe attacks of abdominal pain which came on irregularly, were very severe and prevented his working for some hours. Dr. Randall saw him with me and made an examination of the deep urethra. The patient did not know that there might be any association between the condition in the urethra and the attacks of pain. When the verumontanum was touched the patient cried out and said that an attack of colic was coming on. There was no doubt of the severity of the attack. He writhed with pain, his face became pale, he broke into a profuse sweat, the pulse could hardly be felt at the wrist, and he almost went into collapse. This agreed with the description of the attacks which he had given before and which I had thought he was exaggerating. With this there was hardly any pain felt in the urethra or bladder.

One referred disturbance of sensation—for it is hardly a pain—is of especial importance in lesions of the verumontanum, namely, pruritus ani. It is surprising how frequently patients make complaint of this, and, if the usual causes are not found, the possibility of disturbance in the deep urethra should be considered. Another disturbance of sensation may be referred to the rectum. There is a feeling of discomfort at a point a short distance above the sphincter. Sometimes the patient has the sensation of feces being in the rectum when it was empty. There may be no complaint by the patient of any pain in the diseased area or of symptoms referred to it.

CHRONIC ARTHRITIS

One of the lessons slowly being learned is that chronic arthritis, excepting gout, is in the majority of cases due to some infectious process, and in our search for the focus of infection the prostate must not be forgotten.

1. Young, Geraghty and Stevens: Johns Hopkins Hosp. Rep., 1906, xiii, 813.

In some cases this is a gonococcus infection with a resulting gonorrheal arthritis, in which connection it must be remembered that a negative examination of the urethra alone is not enough to exclude a gonococcus infection, and the prostate should also be examined. Apart from this particular organism we must recognize that the ordinary prostatitis may be the focus responsible for an arthritis, and the recognition of this may enable us to materially benefit the joint-disease. Of somewhat similar nature may be the chronic nephritis found in some cases in which a cause is difficult to find. This perhaps is due to a slow chronic infection in some cases, and the prostate may be the source of the organisms or toxins.

I have an impression, and one should always be very cautious in basing any inferences on impressions, that arthritis of the spine—spondylitis—occurs in a relatively large number of cases secondary to prostatitis. In several cases a gonorrheal arthritis of the spine seemed undoubtedly due to a chronic prostatic infection. The combination of the two conditions—spondylitis and prostatitis—may lead to error, as the referred pains due to each condition may be much alike. If one recognizes the spondylitis it is easy to consider that it may be responsible for the symptoms, rest content with this, and so miss the cause behind the spondylitis.

The proof of the association of arthritis and prostatitis is not always easy of demonstration. If the prostate is the only possible source of infection, this is a suggestive point. In some cases the proof is strongly supported by treatment of the prostatic condition resulting in improvement of the arthritis.

RENAL CONDITIONS

The effect of prostatic disease on the function of the kidneys may be marked. This is seen strikingly in cases in which there is marked obstruction from an enlarged prostate. There may be albumin and casts in the urine due not so much to actual renal disease as to irritation and perhaps back pressure. One important bearing of this is on the decision as to the wisdom of operation for the prostatic hypertrophy. The kidney condition may be regarded as of much more serious importance than it really is and operation be avoided when it is particularly required to improve the renal function. In this connection the functional test by phenolsulphonephthalein is most valuable in giving us correct information as to the renal condition. In some cases the problem is largely a mechanical one, but there is no doubt of its being more than this in other cases. The marked improvement in renal function after operation in certain cases in which there was little or no mechanical obstruction is proof of this.

CIRCULATORY SYSTEM

The influence of disease of the prostate on the myocardium and through it on the circulation is one which interests both the physician and the surgeon, especially in making a decision as to the safety of operation. There are a number of factors which have to be taken into account, such as an infection of the prostate and possibly of the bladder, sometimes pyelitis, and probably renal disturbance of some degree. Many of the patients are advanced in years and so have a certain amount of arteriosclerosis and myocardial change. This question has interested me greatly in recent years as I have seen many of Dr. Hugh Young's patients in consultation to discuss the question as to whether or not it was safe to operate. In many of these cases the question arose on account of the circulatory condition. A striking feature in such

cases has been the frequency of signs of myocardial disease, an increased heart-rate, irregularity, and not infrequently dilatation. Hypertrophy is present in a considerable number of these patients as a matter of course. Many of them are advanced in years, have arteriosclerosis, suffer from chronic bronchitis, and altogether cannot be regarded as good risks. In such patients every effort must be made by careful preparation to lessen the risks of anesthesia and operation. What has impressed me particularly has been the striking change in the cardiac condition in many of them very soon after operation. This was not the result of treatment after operation directed to the cardiac condition. The operation itself might be expected to prove a heavy strain on these senile hearts, but as a rule it was quite the contrary. In some cases improved renal function undoubtedly had some influence, but the rapid improvement suggested more than this. We are aware that Dr. Babcock of Chicago has drawn attention to the influence of gall-bladder disease in the production of myocardial changes, and it is possible that prostatic disease may have the same effect. At any rate, it is important to recognize its importance in affecting the heart and not to attach too much weight to cardiac disturbance in deciding as to the wisdom of operation. The removal of the prostate seemed in many cases to be followed by an immediate change for the better in the cardiac condition; but this should not lead to the taking of undue risks in advising operation.

Reference has been made to various disturbances of the heart which may be regarded as functional in character. The occurrence of attacks of pain, which may simulate angina pectoris, and of vasomotor phenomena should be kept in mind. It is probable that these result from general nervous derangement. One circulatory condition which is rare but apparently does occur secondary to prostatic infection is phlebitis. This may be in adjacent veins or in distant parts. This possibility should be kept in mind in obscure cases of phlebitis in males.

NERVOUS SYSTEM

The general functional disturbances secondary to these local lesions have been noted, but attention may be called to another point of association in regard to some organic diseases of the nervous system. Certain of these may cause disturbance of the function of the bladder as an early evidence of their presence. Thus precipitate urination may be an early sign of multiple sclerosis; it may also occur in some patients with an inflamed verumontanum. In locomotor ataxia disturbance of bladder control is common, and patients with this condition may consult a genito-urinary surgeon by whom, in not a few cases, the diagnosis is made from the local condition. In this group the tendency is rather to ascribe local symptoms to local conditions than to recognize the general disease. It is important to keep the possibility in mind.

CONCLUSIONS

The frequency with which lesions of the prostate and deep urethra are responsible for symptoms elsewhere suggests the necessity of more frequent routine examination of this region. Careful inquiry into the history should bring out functional derangements; examination should disclose organic disease. Disturbed conditions of the verumontanum are often suggested by the history, while the recognition of disease of the prostate is as a rule not difficult. In any event, if there is doubt, it is advisable to have a more expert opinion. This adds another detail to a systematic examination but one which

gives good returns for the effort. It requires no emphasis to show that the recognition of the cause is important for proper therapy.

The question of diagnosis of the local lesions is not discussed here, the intention being to direct attention to the importance of the recognition of lesions in this region. This cannot be overestimated in the study of males with functional nervous disturbances. The tendency to conceal any disturbance in the sexual sphere must always be remembered. The symptoms of prostatic disease have been divided by Young into (a) the sexual, (b) the urinary and (c) the referred. If either or both of the first two are presented, attention is directed to the genito-urinary tract and the diagnosis is suggested. These features are not here discussed. It is in the third group that difficulty arises, and emphasis may be placed on the fact that nothing may be brought out in the history or urinary examination to suggest the presence of the local disease.

The question of treatment hardly comes in this place. Perhaps one warning should be given, and that is against treatment in a haphazard way or by one who has not been properly instructed. Too vigorous or too frequent treatment of the prostate may result in great harm and corresponding disappointment to both the patient and the physician. This is particularly the case in patients with general nervous disturbance, in whom treatment must be conducted with judgment and caution.

1627 Spruce Street.

ABSTRACT OF DISCUSSION

DR. HUGH H. YOUNG, Baltimore: Foreign writers have put the percentage of chronic urethritis in males as high as 80 per cent., which, if true, would show how prevalent deep-seated urethritis and its usual accompaniments, prostatitis and vesiculitis are, and the relative frequency of the remote and referred conditions which Dr. McCrae has mentioned. I think the percentage is not so high in America, but a fairly large percentage of male adults have chronic inflammation of the prostate, often not of the dangerous type, with no local symptoms, no obstruction to urination, no irritation, no sexual disturbance, and yet, in after years, the patient will suddenly begin to have arthritic conditions, or local or referred pains, with no symptoms pointing directly to the prostate, but which are entirely dependent on it. An interesting communication by Head of Edinburgh brought out an explanation of these referred pains. He showed that visceral lesions send painful stimuli to the part of the spinal cord supplying that region, and that from there they may be referred to some other part of the body which is supplied by the same segment of the spinal cord. The prostate thus communicates with a large part of the body below the diaphragm. A rather common neurologic symptom occurring with the prostatic condition is burning or irritation of the soles of the feet. A great many cases of supposed lumbago or sciatica and pains in the groin are undoubtedly simply referred pains from prostatitis. I have seen at least twenty-five cases diagnosed as renal calculus, some with the most typical symptoms, which were due solely to chronic, inflammatory infiltration in and around the prostate and seminal vesicles. The hemorrhage was caused by a greatly inflamed and congested verumontanum, which is often present in conjunction with the prostatitis. At least ten of these patients had been previously operated on for renal calculus, without finding a calculus, and most of them were ultimately cured by massage of the prostate and vesicles, with other local treatment. Agonizing pain in the back, often incapacitating the patient and even confining him to bed or necessitating the use of crutches, may be due to prostatitis. I have seen several patients come to the hospital on crutches, whose whole trouble was due to prostatitis with referred pains in the lower back, hips and thighs. A symptom almost pathognomonic of a diseased verumontanum

tanum is pain in the suprapubic region. General practitioners have for a long time recognized that pelvic inflammatory lesions in women produce a wide range of referred pains, but there has not been a realization in the past that an even greater number of referred pains come from diseases in the male pelvis.

DR. WALTER BIERRING, Des Moines, Iowa: An instance of rather unusual results following a local infective focus in the prostate recently came to my attention. A traveling salesman sustained a rather simple injury, a blow on the thigh, after which the following sequence of changes occurred: He developed a typical femoral phlebitis of the left leg, followed by a local abscess formation, which was incised and the exudate permitted to drain. Three or four weeks of general septicemia followed and then death. There was a claim for accident insurance because of the local injury. At the necropsy a deep-seated abscess of the prostate, showing diplococci, was revealed. In addition, another interesting fact which was brought out by Dr. McCrae was a marked fibrosis of the myocardium, which also could probably be attributed to this latent prostatic infection. There had been a Neisserian infection five years before.

DR. W. O. BRIDGES, Omaha, Neb.: One effect of disturbance of the prostate, which may be overlooked, has come under my observation within the last three or four years, with reference to several cases of abdominal tumor, dependent on obstruction of the prostate. The patient voided his urine apparently to his own satisfaction, but the residual urine eventually caused a tumor, which finally became distinctly palpable. I did not use the catheter, on the ground that the patient was able to pass 8 ounces of urine, in my presence, without any effect on the tumor of the abdomen. Two or three days later, a catheter was passed and the tumor entirely disappeared. When a catheter is passed into the prostate, in cases in which sufficient accumulation in the bladder has occurred to produce a good-sized tumor, it is surprising how much urine can be withdrawn without having much effect on the bladder. The reason is that for several weeks, or perhaps several months, the tumor has resulted in such back pressure of the urine in the kidneys that the urine drained down in the bladder about as fast as it was removed, up to a certain point. This is probably the reason for our failure in many of these cases. I recall one case in which the patient had a tumor for four months, and operation was recommended. He finally went to the hospital, the diagnosis of prostatic obstruction was made and the entire tumor was removed by the use of the catheter.

DR. J. M. ANDERS, Philadelphia: Dr. McCrae has called attention to certain causes of neurasthenic conditions that have been, to say the least, neglected by general practitioners in the past. He has well said that a most careful history is an important matter in the study of these cases. I have learned from experience one fact to which I wish to call attention, namely, that, in the absence of symptoms referable to these organs and in the absence of the history of a gonococcus infection, it will not do for the internist to exclude diseases of the prostate and deep urethra as a cause of neurasthenic states. The specialist knows that either arthritis or prostatitis may be caused by other organisms than the gonococcus, for example, *Streptococcus pyogenes*, *Staphylococcus pyogenes*, *aureus*, *albus* and *Bacillus coli communis* and others. The absence of a history of specific or gonococcus infection of the urethra is not proof positive that lesions do not exist which may cause, as I know from experience, reflex symptoms, particularly referred pains in the back.

Plague Universally Endemic.—The disease [plague] is endemic on every continent in the world and in practically all countries, excepting, possibly, those of continental Europe. In our own country any laxity of sanitary surveillance of the endemic centers on the Pacific coast would result in the broadest spread of the disease. The same will apply to all endemic centers. It is a question of eternal vigilance.—R. H. Creel, *Pub. Health Rep.*

SOME NERVOUS SYMPTOMS OF PERNICIOUS ANEMIA *

C. EUGENE RIGGS, A.M., M.D.

ST. PAUL, MINN.

About seventeen years ago my attention was especially attracted to the distinctiveness of the nervous symptoms occurring in pernicious anemia, and at that time I reported a case before the American Neurological Association in which the pathologic findings were those of a subacute combined degeneration of the spinal cord. At this time I called attention to the fact that the sclerosis was apparently vascular, not systemic in origin. Stengel has stated that this type of anemic patients give the highest blood-count. Bramwell in 1910 reported a case in which the nervous symptoms were characteristically those of disseminated sclerosis and in which the cord symptoms developed three years before the anemia became marked, and he emphasizes the fact that the nervous phenomena may occur a long time before the anemia or cachexia which precedes or accompanies the degenerative changes in the spinal cord. This also has been my observation. Not only is the blood-picture not typical of that in pernicious anemia, but the nervous symptoms usually precede for months or sometimes even years the blood-findings characteristic of this disease. In Bramwell's case before mentioned the anemia was so slight that no blood examination was made and it attracted attention and became a feature of the case only a few weeks before death.

Some years ago I saw a patient in whom the clinical syndrome was that of a chronic myelitis; the nervous manifestations overshadowed by more than two years the typical blood-findings of pernicious anemia. Not infrequently the symptoms resemble those of a transverse myelitis or of a multiple peripheral neuritis.

According to Strümpell the nervous symptoms are similar to those of tabes; other writers compare them to ataxic paraplegia. It is an interesting fact that the nervous syndrome may be entirely wanting and yet there may be involvement of the spinal cord. Spiller has shown that the degenerative process may extend into the brain axis.

These symptoms may be purely subjective, such as numbness in the arms and legs. One of my patients complained that the bones were going through the flesh. According to Putnam paresthesias are strikingly noticeable. Knee-jerks may be normal, absent or exaggerated; ankle-clonus and the Babinski reflex may or may not be present; paraplegia may be partial so that the patient may move the legs freely in bed, or it may be complete. Associated usually with this is a loss of control over the bladder and rectum. Lightning pains and objective sensory disturbances are common. Wilson recently reported a case in which gastric crises were present. Dissociation, as in syringomyelia, has been observed. Dimness of vision is quite frequent and occurs early. Optic neuritis, optic atrophy, and hemorrhages associated with retinitis are occasionally seen. Mentality is as a rule unimpaired, although psychotic symptoms have been reported. Camp and others have described cases in which the mental symptoms and signs of paresis were clearly marked.

Dr. Addison, of suprarenal capsule fame, first described (and his description remains classical until

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.