

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

VOL. XLVIII.

CHICAGO, ILLINOIS, FEBRUARY 2, 1907.

No. 5.

Original Articles

GONORRHEAL ARTHRITIS.*

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Gonorrheal arthritis is a specific infection of one or more joints, occurring as a sequela or complication of gonorrhea, usually in its subacute or chronic stages, only a very limited number of cases having been reported during the acute stage of gonorrhea. The oft repeated expression that this disease is not equal to a "bad cold" must be corrected by the profession. The falsity of this description is quickly appreciated by its unfortunate victim, should arthritis develop, as few joint troubles are so painful. The infection is transmitted usually by the blood, and therefore is a general infection in which the joint pathology is but a local manifestation, and while the local symptoms are the principal ones to attract the attention of both patient and physician, my observation is that the general system suffers far more seriously than is usually appreciated.

ETIOLOGY.

The infective agent is primarily the gonococci, or the toxins generated by them, and in very severe cases the germs are present in the fluid which forms in or around the joint; while in the mild cases they are frequently absent, but the toxins are responsible for the lesion in the joint. In the suppurative cases, which are fortunately not common, there is a mixed infection and the pyogenic bacteria (usually of the staphylococcus variety) predominate.

In the vast majority of cases the infection is disseminated from the primary focus in the urethra, or from a gonorrheal vesiculitis, but it is a mistake to contend, as do some writers, that this is always true, as cases have been reported following gonorrheal ophthalmia, and arthritis has developed in cases of ophthalmia neonatorum. It is also worthy of notice that gonorrheal infection has been reported to have primarily attacked wounds, and arthritis has been developed from this focus of infection by Kimball as gonorrheal pyemia.

In gonorrheal arthritis, as in all infections, there is great variation in the individual susceptibility. This, as in other diseases, must be considered in the development of arthritis, and its tendency to return under favorable conditions.

I am unable to accept the statement of some authors that a rheumatic subject is more liable to gonorrheal arthritis, except in the possible lessening of the resisting powers of tissues previously affected by rheumatic inflammation. We must appreciate the fact that they are independent infections, and that gonorrheal rheumatism

is incorrect and misleading, and should not be used in text-books.

PATHOLOGY.

Gonorrheal arthritis occurs in two forms, which are not infrequently combined. In one type, the synovial membrane is inflamed, the effusion is in the intra-articular structures, and permanent ankylosis may follow. In the other type the periarticular structures are the principal tissues affected by the infection, with very little or no effusion in the joint proper, but there may be marked infiltration of the surrounding structures. The parts are edematous, with softening of external ligaments. Fascia contractures are not infrequent, as in plantar region, leaving stiffness. The Achilles and other large tendons are sometimes painfully inflamed. The amount and character of the effusion varies according to the severity of the attack. It is serous in the majority of cases, but may vary in the mildest form from serum with flocculent lymph to all grades of infective fluid, to a seropurulent or purulent accumulation. While, as a rule, one or two joints are affected, and those most commonly involved are the knee, ankle and wrist, in severe cases no joint in the body is immune, as the sacro-iliac and the sterno-clavicular, which as has been pointed out, are rarely, if ever, involved in articular rheumatism. In my experience, the left knee has been the joint involved with greater frequency.

SYMPTOMATOLOGY.

Gonorrheal arthritis may be divided into two clinical types, acute and chronic. In the acute the onset is sudden, with a chill or chilly sensations, a moderate rise of temperature, rarely above 102 to 103 F., a heavily coated tongue, full bounding pulse, constipated bowels, scanty high colored urine, which may be albuminous, always flocculent. In this type rarely more than one or two joints are involved, but the swelling is rapid and the skin over the joints is red and tense, and very sensitive to the touch. Pain, the most prominent symptom, is sometimes excruciating, and is exaggerated on motion. In a few days the joint pains subside in a measure, and the parts become edematous and fluctuant, the fluid usually being serous in character, but if it becomes purulent, then we have the additional symptoms of repeated chills, irregular fever and sweats. The discharge from the original site of infection often lessens, or stops entirely, during an acute attack of arthritis, but will reappear usually on the subsidence of the joint trouble.

These attacks may run a rapid course and convalescence may be satisfactory, but it must be remembered there is a marked tendency to return under favorable conditions. Ankylosis in this type is rare, but even after all acute symptoms have disappeared, the stiffness and swelling of the joint subside very slowly.

In the chronic type the symptoms are not so acute and marked decline in general health suggests general in-

* Read in the Section on Practice of Medicine of the American Medical Association at the Fifty-seventh Annual Session, June, 1906.

fection. In this there is progressive loss of weight and strength, anemia is marked, the skin is sallow, the appetite is lost, the muscles lose their tone, and general exhaustion, with malaise, shortness of breath and loss of energy is noted. The pulse is often slow and compressible and unstable, becoming rapid on exertion or excitement. Palpitation of heart is common, even pain in the precordial region is sometimes present, and occasionally endocarditis. In the more severe cases digestive disturbances with lumbar tire or aching will be found, the urine is scanty and high colored, containing pus and shreds floating in specimen. The joint symptoms may be mild, or absent at intervals, but with a tendency to return. Sometimes this occurs after the passage of a sound in a chronic gleet, or even following strong urethral injections. I have known a joint trouble to develop following a nocturnal carousal. In these sub-acute or chronic cases, there may be a mild grade of fever, or it may be absent, the joint is not so hot and red, it may even be glazed and white in appearance, resembling a tuberculous joint, but more commonly it is a dark red or a leaden hue, the pain, at times, may be severe, but is not, as a rule, so great as in the more acute cases. The arthritis in this type is usually multiple, and while the edema and effusion may be considerable, yet in some the joints may be but little enlarged. Ankylosis is the rule, unless treatment is prompt and efficient.

DIFFERENTIAL DIAGNOSIS.

Differential diagnosis from acute inflammatory rheumatism should be easy in most cases. In gonorrheal arthritis the presence of the primary disease, while not pathognomonic, is important, the fever is not so irregular, the lactic acid sweats are absent, the joints are brighter red, more painful and tend more to suppuration. While this is rare in both, yet it is more common in gonorrheal arthritis. There is not that sudden subsidence of trouble in one joint, and the sudden involvement of another, as seen in acute rheumatism. The endocardium is rarely involved in gonorrheal arthritis. The case is much more prolonged and does not yield to the salicylates. The differentiation between the chronic form and tuberculous arthritis is more difficult, as was proven in a case I recently saw. In both the health is gradually on the decline. In both variable temperature exists, and many other symptoms in common might be mentioned, but I shall pass on to the differences.

In chronic gonorrheal arthritis we usually have multiple joints involved; not so in tuberculous, yet the opposite may be true in both. The joints are more painful, more swollen, have some redness and have larger effusions and more tendinous involvement, more edema than in tuberculous cases, when the joints are often white and glazed in appearance, and the trouble is more central, often involving the epiphyses of the bones. The patient has a tuberculous tendency, dates his trouble back to some slight injury, whereas in gonorrheal arthritis it is dated back to an old gonorrhea. In the case mentioned, only the left knee was involved, and the lymphatic glands in the left groin were enlarged, which might exist in both, but examination of fluid from the joint showed no tubercle bacilli or gonococci. The fact, however, that the effusion, which was sero-purulent, was in the periarticular structures, and was in large amounts, and the boy had an uncured case of chronic gonorrhea, and a removed inguinal gland was septic, together with the absence of any tuberculous history or

lesion elsewhere, forced me to the conclusion that it was not of tuberculous but gonorrheal origin. In the fear that I may make this paper too long, I shall not pursue the differentiation further, but respectfully suggest that the tendency of the profession to call all joint trouble rheumatism is far from correct.

PROGNOSIS.

The prognosis in gonorrheal arthritis is always uncertain, and I do not think the serious character of the initial disease is appreciated, as is well shown by the utero-tubal troubles seen in innocent women after marriage, or in the constitutional disturbances and arthritis which may develop years after the acute gonorrhea has disappeared.

The infection is often latent, especially in the glandular type, as in the cases reported in which the germ has been found in the semen for years, and while in these cases it is usually innocuous, yet it is sufficient proof of the difficulty of cure, and impresses the necessity of the profession teaching the laity that marriage is a crime when an uncured case of gonorrhea is present or suspected. Should endocarditis develop it is due to the gonococci, not to the toxins, and is always of grave prognostic importance. It should be remembered that ankylosis is prone to occur, and is often permanent.

TREATMENT.

Treatment is as varied as it is unsatisfactory. In the acute types rest in bed, fixation of joint by splints to relieve pain which may be so severe as to demand an opiate. In England they insist on large doses of quinin. Local applications, hot or cold, are often grateful, one of the best local applications being a 50 per cent. ichthyol ointment early in the case. Internal administration of drugs rarely influences the trouble, and is not advisable, except to meet symptomatic conditions. The salicylates are harmful, and add to the patient's discomfort by disturbing the stomach, and yet they are almost universally given. In chronic cases general reconstructives are useful, and potassium iodid. In both the cure of the initial lesion is to be recommended as rapidly as possible.

I can not agree with the writers who condemn all surgical interference. Great benefit is often derived, according to the case. In some, strapping the joint with adhesive plaster, being careful not to surround the whole joint, will give relief. In others, aspiration must be advised, and in suppurative cases incision and drainage is the only treatment.

Some very remarkable cures have been reported by Dr. Fuller of New York, who insists that the infection comes from a gonorrheal vesiculitis, and by opening and draining them immediate amelioration of the arthritis takes place. With this I can speak only of one case operated on by Dr. W. A. Bryan of Nashville. The case was of two years' duration, and great emaciation and general bad health existed. Both knees were swollen and painful. Much relief followed the operation, and rapid improvement of the arthritis was noted in a few days. In view of the pathology in the joint and the presence of the infective agent found in the effusion, it is difficult to explain the rationality of this treatment.

Free Antitoxin.—Dr. Geo. Webster (*Bulletin Ill. State Board of Health*, October, 1906) advocates that the state of Illinois furnish diphtheria antitoxin to its citizens free of cost on the ground that "an ounce of prevention is worth a pound of cure"; that it is primarily a means not of curing the disease, but of preventing it.