CERTAIN METASTATIC COMPLICATIONS
OF GONORRHŒA

By SIR R. STANTON WOODS.

DISCUSSION

Mr. Ambrose King wished, first, to say how grateful he felt to
Sir Robert for the instructive paper he had
given this evening, and how much he had enjoyed it.

There was first the question of the case in which
vesiculo-prostatic culture was positive in respect of the
gonococcus in a patient who had chronic arthritis of
doubtful origin. When the complement-fixation test was
positive one contention was that it meant that the
arthritis was due to the gonococcus, but he feared he was
not in a position to speak certainly as to that. This
cultural test in the chronic stage of gonorrhœa, which
was due to the work of Dr. Price, was as yet in its infancy,
and there had not been sufficient opportunity of accurately
assessing its significance in all these cases. Now, with the
help of what Sir Robert Woods had said to-night, one
could work on with a view to settling the question. At
the present time those who had followed this work tended
to live in an atmosphere clouded by the gonococcus, and
hence many of these joint cases were apt to be attributed
to that organism when possibly that was not the cause
at all.

With regard to the complement-fixation test and its
significance in cases of chronic arthritis, the view was
expressed at one of the meetings of this Society that in
cases of subacute arthritis due to the gonococcus, the
complement-fixation test was always positive, a state-
ment from which he dissented then, as he did now. He
thought there was no doubt that patients were seen from
time to time who had subacute arthritis and in whom the
gonococcus was found, and whose illness ran the usual
course of a gonorrhœal infection, and the fixation test was
negative. Such cases, however, were few. Dr. Price
would agree that the result of the fixation test, if positive,
was not an indication of the presence of the gonococcus,
but of the response which the body was putting up to the gonococcal infection, and if that response was deficient, the fixation test was negative. That applied particularly in the old-standing cases with chronic arthritis, who had their infection many years before and in their declining years were still harbouring the gonococcus and suffering from arthritis. In a number of these cases the fixation test was negative.

He agreed that the reaction to injection of gonococcal vaccine was not always a help in diagnosing as to whether the lesion in question was due to gonococci. But there were no more satisfactory cases to treat with vaccine than cases of gonorrhoeal arthritis in the subsiding stage, combining this method with the ordinary methods of drainage. To that extent the process could be regarded as diagnostic. The later stages did not react well; often, indeed, the response was very bad.

Sir Robert had mentioned the question of lymphangitis. The speaker remembered two cases of it, those to which Sir Robert referred, and no others.

With regard to pelvic diathermy for metastatic lesions following gonorrhoea, his own experience of that had been limited, but he had taken an interest in the work which had been done on the subject. He had tried it in a limited number of cases, and his impression was that these patients did well on the method provided that the anti-body content of the blood was sufficient. If the anti-body production could be stimulated beforehand so that the fixation test was strongly positive, good results could be expected from pelvic diathermy.

He would only refer further to the remark of Sir Robert as to the alleged rarity of metastatic gonococcal lesions. One sometimes saw, accidentally, patients with arthritis of doubtful origin who had attended an orthopaedic clinic, and in such cases, frequently, the patient had never been asked as to whether there was a past history of gonorrhoea, and apparently the possibility of that disease coming into the case had never been suggested. He thought that more co-operation was needed between the various clinics and departments which were devoting attention to pelvic conditions.

Dr. McElligott said that he, also, had been greatly interested in the opening paper, which had rendered the subject a very interesting one.
He, the speaker, always treated gonococcal joints by means of extension; he regarded it as the one great treatment for those conditions as it was so valuable for relieving pain. He had seen patients with a gonococcal knee who were screaming with pain, and as soon as the extension was put on they became happy. A weight of only 8 lb. was used, the knee being semi-flexed, and the weight was applied with a plaster. It was sufficient to keep the articular ends of the bones apart, which allowed the needed slight play to preserve function.

He would like the opinion of those present on a case which was recently transferred to his ward, that of a man aged 48, who had acute gonococcal arthritis in the right knee joint. He was in acute pain until he was put upon an extension, and then the pain disappeared. He had a very large hydrarthrosis of the joint, and a temperature between 100° and 103° F. The gonococcus was isolated from the prostate, and an enterprising house surgeon obtained the organism from the joint fluid. When the man had been in the speaker's care for a week he became acutely manic. His temperature remained up, and he was only kept in bed with very great difficulty. On removing some of the cerebro-spinal fluid there were found to be 298 polymorphs, but no organisms were grown from the spinal fluid. The complement-fixation test of the spinal fluid was strongly positive. The patient was treated with very small doses of vaccine and cold water, and at times he had to be fed by tube. After another week his temperature gradually came down to normal, and he became gradually saner, so that after six weeks he was thoroughly sane, and the polymorphs in the cerebrospinal fluid were down to 5 per c.mm. He was now in a convalescent home, quite sane. His notes had now been filed under the diagnosis of "toxic meningitis." He asked whether similar cases had been described, and whether any members present could throw any light on the infection.

Mr. V. E. Lloyd said he also wished to express his appreciation of the excellent paper with which the discussion was opened.

He had been particularly interested in the remarks about bony spurs appearing on the os calcis in metastatic gonorrhoea.

Some time ago he had collected twelve examples of
sub-calcanean spurs in cases of active gonorrhoea in men which were reported in the Journal of this Society. In those cases there was little doubt that the condition was gonorrhoeal, although attempts to cultivate the gonococcus from the spur after excision in 2 or 3 cases were unsuccessful.

Formerly he had thought that nearly all calcanean spurs were of gonococcal origin, but he had since had the opportunity of investigating many cases of this kind attending the Orthopædic Department at Guy's Hospital under the late Mr. W. H. Trethowan.

Some 30 or 40 cases of various ages including some middle-aged and some elderly patients were seen; the majority of these were not gonorrhoeal, but were considered to be of osteo-arthritic origin. However, the speaker thought that in the young adult male the gonococcus was the most common cause of a painful calcanean spur.

He, also, had been disappointed with the results of the diagnostic use of gonococcal vaccines in cases of obscure infective arthritis. In his own cases he had thought this might have been due to temerity in giving adequately large provocative doses, though he had used up to 200,000,000 gonococci.

Mr. Hamish Nicol said he, also, owed his thanks to Sir Robert for his opening paper. He saw many of these cases in St. Stephen's Hospital, and he usually handed them over to his orthopædic colleague, who placed them in plaster with extension. One, a tarsus case, suffering from gonorrhoea, was put up in plaster and did very well. In this case the blood complement-fixation test was negative.

Two other cases suffering from arthritis, one a knee, the other an elbow, he, the speaker, put up in extension and treated them with Scott's dressing, and both did well.

Sir Robert's paper was exceedingly interesting and stimulating, and he would return to these cases with fresh interest.

Dr. Lynette Hemmant said she had been a little disappointed to hear that the percentage of cases of metastatic arthritis was so low. She had been under the impression that having so few of these cases at King's was due to her excellent treatment. She had had only 2 acute arthritis cases out of 600 or 700 cases in the last
five years, and both these cases did well. One was a woman aged 21, who had intercourse on a Sunday in July, developed arthritis and cervicitis on the following Tuesday, and acute arthritis of the knee on the following Thursday, which was a quick sequence of events. She did very well. She had a fairly high temperature, and was put to bed, and the speaker gave her stock vaccines only, and, as soon as she was able to bear it, Bier's bandage. She had also intensive treatment of the urethra and cervix. On the Friday she had ± c.f.t., and in a fortnight was double plus. In October there were no clinical signs. She was keeping the patient under observation.

Dr. A. H. Harkness also spoke highly of the paper. He said he had always considered that if a patient did as he was told and posterior irrigations were efficiently carried out, he would not develop a metastatic infection. He had never had a patient develop an acute arthritis during treatment, and in the paper the late Dr. Lees read before the Society he emphasised the fact that in his series 99 per cent. had developed this condition before attending his out-patients.

Janet, too, in his large practice, has seen only 3 cases develop metastases whilst under treatment. He, Dr. Harkness, considered that local trauma due to the faulty technique of the surgeon or sexual indiscretions on the part of the patient (thereby traumatising the posterior urethra) was always the determining factor. The experiments of Barrington and Wright pointed to this. They have recently shown that a bacteriaemia often follows urethral trauma in patients who also have an infected urine. Blood cultures are positive two to ten minutes after urethral operations or after the passing of instruments to dilate a stricture. They are also often positive a few minutes after the first normal urination when the infected urine passes over the traumatised urethral mucous membrane. In view of the rapidity of the blood infection they consider that the portal of entry is by way of the blood stream and not by the slow lymphatic route.

These investigations are, in my opinion, definite evidence of the importance of trauma, whatever the cause, in precipitating metastatic gonorrhoea. A good technique in irrigating is the most important item in the
METASTATIC COMPLICATIONS OF GONORRHOEA

treatment of gonorrhoea, and if it is carried out carefully and efficiently, metastatic complications will not follow.

Dr. MASCALL said he wished to refer to the question of diathermy. A short time ago he had a patient with a typical arthritis, which had been treated for two years with diathermy of the cervix, and yet at the end of that time the gonococcus could be grown from it. He thought there was real danger associated with the employment of diathermy. He was working with Dr. Anwyl Davies at St. Thomas’s Hospital, when many cases were treated by diathermy, and after it the number of cases with tubal involvement rose considerably. In America patients seemed to tolerate higher temperatures than did people in Britain. There appeared to be a point along the tubes where the gonococcus had an optimum temperature for its growth, and if one started to treat the arthritis, the tube involvement might result.

Dr. ORPWOOD PRICE said that cases of the kind under discussion could be divided, from the serological standpoint, into three classes: (1) the acute gonococcal joint, in practically every case of which the fixation test was strongly positive; (2) subacute gonococcal joint cases, in which the reaction might be weakly positive, or even negative; (3) the old-standing chronic gonococcal joint, in which it was his experience that some 30 per cent. gave a negative complement-fixation test. The complement-fixation test for gonorrhoea was a test of what antibodies were present in the blood, but the fact that the test was positive did not mean that every pathological condition from which the patient suffered was of necessity due to the gonococcus. Thus a woman suffering from gonorrhoea yielded gonococci from the cervix, and her fixation test was strongly positive. She developed a very severe synovitis of the knee, with effusion, and people at once concluded that it was a gonococcal joint. A few days later she had a sore throat, and streptococci were isolated from the synovial fluid as well as from the throat. It was therefore important to avoid coming to hurried conclusions. Fluid if present in a gonococcal joint would be found to act as an efficient antigen, and thus the cause of the joint condition can be definitely established.

Dr. ELLIGOTT explained that in the case he mentioned a manometric reading was not taken on the first occasion,
as the excitable condition of the patient required the operation of lumbar puncture to be carried out as quickly as possible. On the second occasion it was taken, and the pressure was not increased.

The President said she desired to thank Sir Robert Woods very much indeed for his paper, which had been both enjoyable and extremely instructive.

She was relieved to hear the opener say these cases were difficult to diagnose, as she had found them so. Such conditions, however, were not very common in women. Here and there, however, one met with a case which had been neglected and had been allowed to lapse for some time, the chronic and the reinfected case, the husband having had no treatment. When joint cases had a positive complement-fixation response one suspected gonorrhoea, especially when there was a history of repeated operations for pelvic sepsis. Sometimes there was a history of former tonsillitis or of rheumatic fever, and in such she had difficulty in determining how much of the trouble was due to the gonococcus. She would have thought that in the inclement parts in the north of the country the general average of 2.5 per cent. of all cases would be exceeded. Usually in her own clinic there was only about one such case per winter, but last winter there were 4, all of them sent there from other departments with crippled joints.

Treatment was, of course, of the utmost importance. In the Royal Free Hospital, fixation of these joints was an unpopular measure, and it was not the rule to put them into plaster. They were rested in light aluminium splints, or, in very acute cases, in sandbags, and local treatment in the form of massage, radiant heat, etc., applied. In a woman, pelvic drainage was very important, and in some the results of diathermy were impressive. Diathermy to the urethra was more effective in chronic urethritis than for a chronically infected cervix. She had found it difficult to know what to do for chronic old urethras, except applying diathermy; she did not think the claims of Cumberbatch and Robinson in respect of diathermy were fully justified. She was sure, however, that local congestion was important in these cases.

She wished to mention one other treatment apropos of a case which was sent her from St. Margaret's Hospital two or three years ago. It was that of a young woman,
METASTATIC COMPLICATIONS OF GONORRHŒA

recently delivered, who had very severe, untreated, gonorrhœa, and her baby had severe ophthalmia neonatorum. In St. Margaret's the woman developed very acute polyarthritis, the temperature varying between 102.4°F and 103.6°F. Both hips, both knees, both thumb areas and the right elbow were involved. She was unable to extend her legs when admitted to the Royal Free Hospital. No application and no drugs or infections made any difference to the temperature. Then the President remembered that Mr. McDonagh had said that in the dehydrated type of patient insulin was often effective. Six to 8 units of it were therefore given a day at first, and the effect was magical, for the temperature came down in three days, and stayed down. The gonorrhœa still persisted, but the joints were much less painful, and good local treatment now became possible.

Sir ROBERT STANTON WOODS, in reply, expressed his gratitude for the helpful criticisms which other speakers had contributed.

He was glad that the President shared his own view as to the difficulty of diagnosis and to hear from her of the co-operation existing between the general clinician and the V.D. Department, which, at the London Hospital, constituted a very happy feature of the hospital's work.

Treatment by insulin had arisen as the result of an observation that, in chronic infective arthritis, a disturbance occurred in the sugar balance between the arterial and the venous sides of the circulation. He himself had subjected insulin therapy to a fairly prolonged clinical test in rheumatoid arthritis without obvious results. In chronic joint disease there was an abnormality in the arterial and the capillary circulation in the neighbourhood of the joints, but whether this was causally related to upset of the sugar balance he did not know.

Dr. King had suggested that if the complement-fixation response was negative it denoted an absence of fight on the part of the individual, and one would expect that it might be negative in a case of gonococcal arthritis. But the whole question of this complement-fixation test was still very much in the balance, and even the relevance of the presence of the gonococcus in the pelvis was not absolute.

Dr. McElligott had found extension of the joint of
value. He, Sir Robert, agreed that this might be so, but this treatment was not without its dangers. He could not enlighten that gentleman concerning the toxic and delirious patient of whom he had spoken.

Dr. Harkness considered that if the primary infection was treated efficiently, these complications did not arise. But no statement was entirely unexceptionable. At the same time, he could not remember a hospital case of gonococcal arthritis in whom treatment of the primary infection had been properly carried out from the first. All such patients either had been treated elsewhere or had lapsed in their attendance.

The factor of calcium metabolism, mentioned by Dr. Dorothy Logan, was an extremely interesting one in chronic and subacute arthritis, and was very imperfectly understood.

He was grateful to the Society for having done him the honour of asking him to open a discussion which had been to him full of interest and instruction.