

A Clinical Lecture

ON

A QUIET EFFUSION INTO THE KNEE-JOINTS OCCURRING IN WOMEN AND YOUNG GIRLS.¹*Delivered at St. George's Hospital*

By WILLIAM H. BENNETT, F.R.C.S. ENG.,

SENIOR SURGEON TO THE HOSPITAL; MEMBER OF THE COURT OF EXAMINERS, ROYAL COLLEGE OF SURGEONS OF ENGLAND, &C.

GENTLEMEN,—I am anxious to-day to call your attention to a very interesting condition of the knee-joint about which I do not think there is anything to be found in your text-books; it is, however, not uncommon, and as it is from a practical point of view of importance it is naturally worthy of some consideration. The condition is, so far as I can judge, one of passive effusion into the joint; it rarely occurs in any other joint than the knee, although I have seen it on one occasion in the ankle. The joints of the opposite sides are usually involved at the same time, but the effusion is, as a rule, much more marked on one side than on the other, that on the right side being generally the greater. There is rarely any pain unless some injury has been received; beyond a feeling sometimes of weakness there is nothing to attract attention to the matter—indeed, a considerable percentage of those who suffer from the complaint are unaware of its existence unless attention is called to it accidentally. It is limited to girls and women and is always associated with menstrual irregularity or uterine trouble. It occurs mainly at two periods of life—viz., at the time of puberty, when the catamenial affairs are establishing themselves, and at the climacteric time when menstruation begins to cease. It may, however, occur at any intermediate period if there is menorrhagia, excessive hæmorrhage from the uterus, or great irregularity and difficulty in connexion with the menstrual affairs.

My attention was first attracted to this affection some years ago when I met with several cases of painless and unnoticed effusion into the knee-joints of girls of 12 and 13 years of age; and I found upon examining a number of girls who were attending as out-patients at St. George's Hospital that a certain number had painless swellings of the knees of which they and their parents were unaware. In all these cases there was delayed onset of menstruation. Upon inquiry it was found that in some of them, although neither the children nor their parents were aware of anything being wrong, the children tired easily and in some cases were prone to fall down or "double" up without any obvious cause. The character of the joint is peculiar; although containing a considerable amount of fluid it is never tense excepting after superadded injury. The fluid, if the patient is standing, sinks to the lower part of the joint cavity and sometimes leads to a pouch-like overhanging of the synovial membrane at its lower anterior aspect.² In the older subjects the aspects of the condition are similar, the main points being the absence of tension and heat and the freedom from pain. The patients are usually anæmic but not invariably so.

As already mentioned, the common cause of the discovery of the condition is an injury, generally very slight, such as a twist or fall; the occurrence of an injury and the existence of effusion naturally lead to a diagnosis of traumatic synovitis, which being apparently of a very chronic nature and occurring in subjects of a delicate type is sometimes mistaken for tuberculous disease, a mistake of some importance. Any error in diagnosis can usually be avoided by noticing the character of the swelling, the existence of effusion on both sides (that on the uninjured side being painless and

without heat), and the coincidence of marked menstrual or uterine trouble.

In accordance with my usual custom in these lectures let me bring to your notice the following practical illustrations of the condition of which I am speaking, because, as I have often mentioned to you before, a characteristic case of any kind affords a much more perfect picture of the true aspect of things than abstract descriptions, even if they be perfect in their way.

CASE 1.—A girl, aged 14 years, was brought to me who a few months previously whilst walking across the room had knocked her knee against a chair. She complained of nothing at the time of the injury, but on the following day, as she seemed to walk a little lame, her mother noticed that the right knee was held rather stiffly. Upon examination she found it swollen but not tender. Professional advice was sought and effusion into the knee was diagnosed. The usual treatment by rest was adopted for some weeks without any material benefit. Further advice was therefore taken, a somewhat grave opinion being expressed in respect to the possibility of the case being tuberculous, and I was assured that this opinion was given without a previous examination of the opposite knee. Whether this was really so or not I cannot of course say, but at all events further treatment on the lines previously adopted produced no good result. Later I saw the patient with her medical attendant and upon investigation found that both knees contained a good deal of fluid; neither joint was tense but on the contrary was rather flabby; there was no pain or tenderness; the local temperature on the side which had been injured was, however, certainly rather more than on the other. The girl was anæmic and of a delicate aspect. She had not yet menstruated, but certain pains and symptoms of irritability clearly indicated that menstrual developments were tending to come about. Under the circumstances, judging by my previous experience of similar cases, I ventured to predict that the trouble would subside upon the establishment of the catamenial function and advised the discontinuance of rest and splinting, which had made the injured joint already somewhat stiff, substituting exercise and massage, with as much fresh air as possible. The menstrual affairs, although much delayed, occurred later with great profusion. From the moment of the onset of the catamenial discharge improvement commenced and at the end of a fortnight after the second catamenial period the knees were both entirely normal and remained so subsequently.

CASE 2.—A well-developed woman, aged 24 years, met with a slight injury to one of her knees. She took little notice of the injury, but on the following day, upon getting up in the morning, she noticed some stiffness in the injured knee, and upon examination found it swollen. For a fortnight, as the discomfort was but slight, no further attention was paid to the matter, but then, as the swelling persisted, a surgeon whose name were I to mention it would be a sufficient guarantee of his capacity was consulted. He took a rather serious view of the condition and urged immediate splinting of the part and rest in bed for at least a month. As the patient was one of those people who live in the open air—hunting, golfing, &c.—this recommendation was regarded with dismay, especially as beyond the swelling little or no discomfort was present. She was then brought to me as an alternative opinion. Upon examination the left knee was considerably swollen from effusion; it was not tense. In the erect position the synovial membrane tended to drop forwards and to overhang the part below the joint. Beyond a feeling of slight stiffness, which was not enough to produce anything like a noticeable limp, the symptoms were negative. The opposite knee also contained fluid which, although not obvious when the patient was sitting in a chair, became at once manifest in the standing position. This knee had received no injury nor was the patient aware of the existence of the fluid; indeed, she was certain that the injured knee was also free from fluid before the injury, this being clearly an error on her part. Upon inquiry it appeared that her menstrual affairs had always been irregular and very painful and at the time of her coming to see me she had not menstruated for two months, although at the last normal date she had felt ill and irritable and suffered from distressing bearing-down pains. Judging from the general aspect of the case I came to the conclusion that it was one of the kind now under observation. I therefore felt compelled, in spite of the opinion already given, to oppose the use of splints and rest in bed, the latter of which seemed to me

¹ The Lecture is published as it was delivered excepting the omission of some elementary details which would here be superfluous.

² It may be pardonable to remark here that a small quantity of fluid in the knee-joint which when the joint is flexed or if the patient is lying down can only be detected by very expert observers becomes quite obvious on placing the patient in the standing position.

likely to be extremely disadvantageous to a patient of such habits and disposition as this one possessed. I therefore recommended massage, moderate exercise in the open air as much as possible, and the resort to some obstetric authority with a view to the rectification of the menstrual defects. Two opinions so exactly opposite naturally necessitated the reference of the case to a third surgeon, a man of eminence and great discretion, who, adopting very wisely a strictly judicial attitude, declined to commit himself unreservedly to either view, but went so far as to say that confinement to bed in a temperament like that of the patient was to be avoided if possible. The treatment on the lines of my opinion was therefore adopted, and with the onset of regular menstruation, which happily followed a little later, the knee trouble entirely disappeared, although it recurred temporarily before two successive menstruations.

CASE 3.—This patient was in St. George's Hospital under the care of Dr. W. R. Dakin. She was a married woman, aged 26 years, who was admitted on July 8th, 1898. Since her first confinement, six years previously, she had suffered at menstrual times from great abdominal pain. The catamenia had been extremely profuse and exhausting. For two or three years she had been continually ailing, and latterly any attempt at getting about or doing her ordinary work caused intense malaise. For 18 months the knees had been "stiff and hot" before the menstrual times, but she had noticed no swelling either of the knees or of the legs. On admission the patient was found to be anæmic and she seemed ill. There was tenderness over the right ovary on deep pressure. The right knee, she said, was stiff and uncomfortable. There was considerable effusion in the joint which was, however, flaccid—not tense; there was neither tenderness nor any increase of local heat. The limb below was perfectly normal. The opposite knee contained also a little fluid. On July 16th the effusion in both knees had subsided a little; on the 18th it had increased considerably; and on the 19th profuse menorrhagia with large clots and much pain occurred. Considerable hæmorrhage continued, being profuse until the 27th when it diminished somewhat. The effusion in the knees during this time rose and fell from time to time; sometimes it was slight, sometimes great, but at no time did the joints on either side become tense nor was any other joint than the knee involved. On August 8th the uterus was curetted; on the 10th all hæmorrhage ceased, and by the 19th both knees were perfectly normal. The patient reported herself for examination on Oct. 1st and she was then perfectly well; the knees had given no trouble of any kind and upon examination they were found to be normal in all respects. A more conclusive case than this it would be difficult to find.

CASE 4.—A married woman passing through the climacteric period wrenched her right knee in getting out of a cab. The injury was very slight and she thought nothing of it until the following day, when on rising from her bed in the morning she found the knee a little stiff and upon inspection saw that it was considerably swollen. She therefore sought advice. On examination the knee was found to be swollen and it contained a considerable amount of fluid; the joint was not in any sense distended—on the contrary, the capsule was rather flaccid; the fluid in the standing position gravitated to the lower and anterior aspect of the joint, causing some slight "sagging" of the kind which I have previously referred to. The other knee contained almost as much fluid and presented the same characteristics as the injured joint. Of the existence of anything abnormal on the uninjured side the patient was entirely unaware until it was pointed out to her. On inquiry she then stated that the "change of life" had commenced about six months previously, and at times very free loss of blood had happened; after these considerable losses she now remembered that she generally felt very tired upon much exertion, and that on two occasions she had felt a tendency when walking for her knees to "give way." Of this she thought nothing, as she attributed it merely to weakness from pain and loss of blood. She was kept under observation, and during the whole of the climacteric period, which extended over about 18 months, the knees contained fluid, sometimes a little and sometimes quite a large quantity. The increase in quantity usually, but not always, followed increased pain or extra blood flow. The fluid could be almost entirely removed at any time by a week's massage, but it immediately recurred upon the cessation of the treatment. At the end of the climacteric period both joints became normal, and they have never shown any indication of

recurrence of the effusion since. The noteworthy points in this case, as in the others, are: (1) the escape of the condition from observation until attention had been attracted to it by injury; (2) the almost rhythmical rise and fall in the quantity of the effusion; (3) the absence of tension in the joint which was replaced by the peculiar flaccidity; and (4) the spontaneous return to the normal state upon the subsidence of the uterine irregularities.

It is hardly necessary to weary you with descriptions of further clinical examples excepting one (Case 5) very briefly in order to show how important a knowledge of these cases may be.

CASE 5.—The patient was a girl, aged 14 years, who was suffering from the troubles which sometimes arise at that period of life from delayed or painful menstruation. After a slight injury the right knee was found to be swollen considerably. Prolonged splinting with complete rest failed to affect the condition in any noticeable way; the child, on the other hand, began to fail in health from confinement to the house and want of exercise. It was then found that the opposite knee contained fluid in considerable quantity, and it was thought that this effusion in the hitherto sound knee was sudden. The onset of the menstrual period was imminent; the knee was rather hot to the touch, and the temperature was 101° F.; at times the girl felt "shivery" but had no actual rigor. The question therefore arose as to the possibility of the apparently sudden effusion into the knee being a secondary pyæmic condition or something of that kind. There appeared to me no doubt, however, that the case was one of the sort under discussion and that the febrile and general disturbance was merely due to catamenial causes. The case was treated on this supposition; splints were omitted, massage and exercise in the open air as much as possible being substituted. Immediate improvement followed and with the gradual spontaneous rectification in the menstrual irregularities, which ensued in the course of 18 months, the knee trouble entirely disappeared. It is obvious in this case that the knowledge of the occurrence of these conditions was of vital importance for the proper treatment of the patient.

I am unfortunately unable to say how many cases of effusion into the knees of this kind I have seen, for of the earlier cases I kept no memoranda; during the past four years, however, I have seen 20 typical examples in all of which the trouble had been attributed to wrong causes. In three cases I withdrew fluid from the knee by means of an exploring needle; in two of these the fluid was ordinary synovia, in the other it contained a considerable amount of blood. Whether this was an accidental occurrence or whether it had any pathological bearing upon the mechanism of the effusion I cannot say. In only one case have I seen the effusion occur in any other joints than the knees; in the exception mentioned effusion occurred into the left ankle in a very rheumatic subject. The causes assigned for the condition were in order of frequency, injury, tubercle, rheumatism, hæmophilia, and "blood poisoning." In no case did recovery occur when the uterine or catamenial irregularities continued; in every case, on the other hand, so far as my memory serves me, correction of these irregularities, whether spontaneously or by treatment, was followed by complete disappearance of the tendency to effusion into the knees.

Some of you may at this stage naturally begin to speculate as to the practical bearing of these cases which I have related. The practical bearing of the cases is of much moment in diagnosis, treatment, and prognosis. First, with regard to—

Diagnosis.—When called upon to examine a case of a woman or girl suffering from painless effusion into the knee, especially if she be at the period of the onset of the catamenial flow—i.e., from the ages of 11 to 14 years—or at the climacteric, never omit to inquire into the state of the uterine functions, and never omit the ordinary surgical routine of examining both knees although the patient may ascribe the effusion to a distinct injury of only one of them. If there be the functional irregularities to which I have referred you will as a rule find fluid in both knees, generally in excess on the right side, and although the patient may be convinced that the condition is due to recent injury it may be concluded for purposes of treatment that the injury is only an incident which has called attention to the effusion, but that it is not primarily responsible for it—in other words, that the case is one of the kind which we are considering. In the absence

of catamenial irregularity or uterine disorder some other reason must, on the other hand, be sought for the local condition.

Treatment.—In the matter of treatment a correct interpretation of these cases is of vital importance, especially in young subjects in whom the chronicity of the condition and the oftentimes delicate aspect of the patient suggest tuberculous disease if the attention be too much concentrated on one knee only, and may lead to a treatment by splints and complete rest which in the catamenial and uterine cases is the very worst for adoption and should be rigorously avoided. The primary treatment should be directed to the correction of the faulty functions, whilst moderate exercise and massage for the knees, combined with the healthiest of outdoor lives, are collateral indications—beyond everything, splints of any kind should be avoided, and on no account should the patient be allowed to lead an invalid's life unless the loss of blood, pain, &c., render this absolutely unavoidable. In the absence of acute symptoms arising from injury the condition of the knees need lead to no restriction in the exercise of an ordinary person.

Prognosis.—The prognosis in these cases, if treated on the lines indicated, is always good, provided that the primary cause of the effusion can be cured, in which case recovery invariably follows unless the condition has persisted so long as to produce permanent changes in the joint. If the primary condition proves intractable the effusion will occur continuously or recurs at intervals. In cases where the effusion is continuous or is constantly recurring an increasing weakness of the knees occurs and in the later stages, when the health becomes broken down by frequent loss of blood or great pain, oedema of the legs sooner or later follows, but in this there is no specific meaning since it is merely the result of continual exhausting illness.

Such, gentlemen, are the main points in connexion with this interesting condition to which I am anxious to direct your thoughts. So far as I know the affection is not one which is commonly recognised, although, of course, it may be well known to some people. Since, however, a well-known obstetric physician assured me some time since in conversation that the subject was new to him I presume that it cannot be altogether familiar to the generality of us. This amongst other reasons must be my excuse for occupying so much time to-day in considering the matter.

Note.—Since the delivery of this lecture the following striking case amongst others has come under observation. A woman, aged 47 years, had up till quite recently been menstruating with exceptional regularity; she had always been in good health and very active in her habits, taking much bicycle and walking exercise. The last two "periods" had been very profuse and were followed by an almost continuous flow which was very obstinate to treatment. A short time before the case came under my notice the nurse in charge of the case called attention to the existence of swelling of both knees. The patient was anæmic and at times lost much blood; both knees were swollen from effusion, the joints being baggy—not distended; there was neither local heat nor tenderness—indeed, beyond a feeling of weakness nothing abnormal was complained of by the patient. The well-marked point in this case was the singular way in which the effusion rose and fell in relation to the occurrence of the uterine hæmorrhage. The greater the loss of blood the greater was the amount of effusion in the knees. Upon the cessation of the hæmorrhage for a few days the effusion would almost disappear only to reappear in the usual quantity with the recurrence of the uterine flow. In this case as usual the effusion was confined to the knees. At the termination of the climacteric the knees recovered spontaneously and have given no sign of trouble since.

TORQUAY HOSPITAL AND PROVIDENT DISPENSARY.—The fifty-seventh annual report of this institution shows that during 1900 the in-patients numbered 389, against 359 in 1899, and that 692 out-patients were treated compared with 518 in the previous year. This is exclusive of 591 patients who were treated in the ophthalmic department. In the provident dispensary 196 new members were admitted and 228 were removed from the books. The financial statement showed that the expenditure amounted to £2246, and the income from all sources was £1938. A special appeal has been made for funds, with the result that £324 have been already received.

Three Lectures

ON

THE SURGERY OF PREGNANCY AND LABOUR COMPLICATED WITH TUMOURS.

Delivered at the Medical Graduates' College and Polyclinic on Jan. 11th, 18th, and 25th, 1901,

By J. BLAND-SUTTON, F.R.C.S. ENG.,

SURGEON TO THE CHELSEA HOSPITAL FOR WOMEN; ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL.

LECTURE III.¹

Delivered on Jan. 25th.

PREGNANCY COMPLICATED BY CANCER OF THE NECK OF THE UTERUS; TUMOURS OF THE PELVIS; MISPLACED VISCERA; SEQUESTERED AND QUICK EXTRA-UTERINE FÆTUSES.

GENTLEMEN,—We will begin this lecture with the consideration of what to my mind is the most appalling of all the complications of pregnancy—namely, cancer of the neck of the uterus. One of the most significant clinical features in regard to cancer of the neck of the uterus is the fact that it is almost exclusively confined to women who have borne at least one child. In 100 women with cancer of the cervix which I carefully investigated in regard to this point there was only one exception, and she was married. Even in this case a miscarriage could not with certainty be excluded. Ozerwenka has recorded an interesting observation bearing on this subject. A woman, 35 years of age, had a double uterus with cancer of the left cervix. This uterus was removed by panhysterectomy. The vagina was double; coitus was practised in the left half. The left cervix had become cancerous, the corresponding uterine body contained two small fibroids, and the left Fallopian tube had become a pyosalpinx.

It is somewhat difficult to understand how a woman with cancer of the uterus can conceive, but it is quite certain that it happens, and even when the disease is well advanced; further, it is by no means easy in the early stages to detect the complication, because in many cases cancer of the cervix leads to enlargement of the uterus. Dr. Playfair exhibited a uterus at the Obstetrical Society of London in which he had performed vaginal hysterectomy for cancer of its neck, and to his astonishment he found that it contained an embryo of the second month.² I feel convinced that in some cases cancer of the neck of the uterus grows more rapidly than some of us realise, and it is not beyond the bounds of reasonable probability that this woman's cervix was healthy at the time she conceived, and the amount of diseased tissue present at the time of operation represented two months' growth. It is consistent with what we know of the growth of cancer in the breast, for in this situation carcinoma increases with extreme rapidity during lactation. Judging from my own observations I think that cancer of the neck of the uterus is not an uncommon complication of pregnancy, but I believe that cases in which uterine cancer offers obstruction to delivery are rare, and this for two reasons: cancer of the neck of the uterus predisposes to abortion, and when it has advanced to such a stage as to occupy the vagina with an obstructive mass the effect of it upon the patient is such as endangers and oftentimes kills the fœtus. Indeed, it may be laid down as a principle that when considering the question of Cæsarean section upon a woman with cancer of the cervix the intending operator should first satisfy himself that the child is alive. The following case not only illustrates this fact but will serve to demonstrate that it is a fortunate circumstance that in many cases in which this dreadful combination of cancer of the cervix and pregnancy exists that there is a great tendency for abortion to occur. A

¹ Lectures I. and II. were published in THE LANCET of Feb. 9th (p. 382) and 16th (p. 452), 1901.

² Transactions of the Obstetrical Society, vol. xxxvii., p. 198.