Lettsomian Lectures

ON

THE SURGICAL DISEASES OF CHILDREN.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON.

BY

THOMAS BRYANT, F.R.C.S.,
ASSISTANT-SURGEON TO GUY'S HOSPITAL.

LECTURE III. (*Continued.*)

ON DISEASES OF THE JOINTS IN CHILDREN.

ON such a subject, the whole course of three lectures might readily be expended, and to touch upon it in the third lecture may to some appear foolish; but, to be consistent, I shall confine my observations to the differences which are met with in practice between these diseases as witnessed in early and in adult life; and I shall condense my remarks to the narrowest possible limits.

To speak generally, it may with some confidence be asserted that there are but two structures entering into the formation of an articulation in which primary disease ever commences; viz., the bones and the synovial membrane. Primary disease of the articular cartilage is unknown; and I have shown elsewhere, some years since (*Book on Joints*, 1859), that the diseases of the articular cartilage are secondary in the course of events, and are the necessary results of any lasting or acute affection of the articular extremities of the bones and synovial membrane. We may, therefore, exclude diseases of the articular cartilage from our consideration; at the same time recognising the fact that, in all extreme conditions of disease of the other two tissues, degeneration or so-called ulceration of this articular cartilage will take place, even to its total disorganisation. Taking, therefore, the diseases of the bones and synovial membranes as the sole causes of primary disease of an articulation, I believe that I am strictly within the limits of truth when I assert that in adults at least *two-thirds* of all the cases of diseased joints commence in the synovial membrane, and *one-third* in the bone; whereas in children these proportions may be reversed; at least *two-thirds* of all the cases of joint-disease commencing in young subjects in the articular extremities of the bones, and hardly *one-third* in the synovial membrane.

This difference in the seat of the primary disease is the most important pathological distinction which I have to notice between the articular affections of early and adult life. I will not, therefore, run the risk of depreciating its importance by attempting an explanation of its cause, further than to add, that the more active growth and development of the bone of the child renders it more prone to inflammatory affections.

The next pathological fact to which I would briefly refer is the nature of the disease; as it is under the inflammatory affections that the majority of cases may be unquestionably classed. Inflammation of the articular extremities of the bones is, therefore, the cause of at least two-thirds of all articular disease in children; inflammation of the

synovial membrane being the cause in the remaining third.

I would expunge entirely from our vocabulary the terms strumous or scrofulous disease of an articulation. I know no positive condition to which such terms should be applied. They convey no definite meaning to my own mind, and I have never yet met with any one who could correctly understand their true nature. If by such a term it is meant to describe an inflammation of a part of a cachectic and feeble type, it may be intelligible; but surely, under these circumstances, the expression, "an unhealthy or cachectic type of inflammation", would be pathologically more correct, and would more readily convey the right pathological idea. "Unhealthy inflammation" is the term to which I affix my preference; and the phrase "scrofulous or strumous disease of a joint" I would not employ, unless I confined it to the cases in which true strumous deposit exists in a tissue; under which circumstance it would be rarely written.

In the earlier portion of this lecture, when dwelling upon the inflammation of the articular extremities of the bones, I pointed out the chain of symptoms by which the pathological changes in the bone are usually manifested. I showed how the earliest symptoms of disease in the bone were characterised by a gradual expansion of the epiphyses, accompanied by an aching pain and increased temperature of the part, with tenderness. In the second stage, when the inflammation had extended to other tissues, I showed how some enlargement of the articulation from effusion is the most prominent symptom; the synovial membrane having become secondarily involved, and the inflammation thus manifesting itself. If the disease should have progressed still further, and the inflammation in the bone have passed on to suppuration and destruction of tissue, the inflammation in the articulation becomes severe and of a destructive type; and it is at this period that the degeneration of the cartilage and a disorganisation of the joint will take place. In the majority of cases of joint-disease originating in the bone in children, this inflammatory process is of a low type and of slow progress; and, if unchecked, it has but one ending—the disorganisation of the joint.

At the commencement of this disease of the bone, the joint is uninvolved, and is quite healthy; and, if rightly treated, no affection of the articulation may be produced. It is only in the later stages of the affection that the joint itself becomes involved; and this fact alone is enough to point out the danger of the case.

In the majority of cases of disease about the carpal and tarsal joints, unhealthy inflammation of the bone is the primary cause; and it is too well known that death of the bones involved is a frequent and destructive complication, the joints, as such, rapidly disappearing, and the bones exfoliating; and it rests alone with the constitutional power of the patient to determine the result.

Disease of the Synovial Membrane. It is unnecessary to dwell upon the symptoms which characterise synovitis, or to point out the differences between ordinary or healthy inflammation of the synovial membrane, and unhealthy inflammation which gives rise to pulpy or gelatiniform disease; they are essentially the same in children and in adults. In an early stage, both affections are remediable; but,

if neglected, disorganisation of the articulation will be the result.

Treatment of Joint-Disease. In the treatment of all cases of joint-disease, whether in the child or adult, it is right that we should have almost unbounded confidence in the reparative powers of nature to effect a cure, as it can be only through such a feeling that the surgeon will be preserved from interfering in the process of recovery, and from lapsing into the practice of that great error—meddlesome surgery. In the treatment of diseases of the joints in children, the necessity to bear this conviction in mind is far more necessary than it is even in adults; for it would almost appear as if there is no amount of mischief to the articulation of a child which is not remediable by natural processes; and that during young life every disorganised joint is capable of recovery, although perhaps it may be with ankylosis. I believe this opinion to be strictly true, with one exception; and that is, when any necrosed bone is present to keep up the irritation and prevent the completion of the cure. Under any other circumstances, a disorganised joint appears capable of repair; and, in the diseases of children, the proof of the accuracy of these opinions is constantly brought before us. The only drawback, however, to their universal application depends much upon the condition of the general health of the child; for it is in this that the grand fault always lies. The chronic inflammatory affections of an articulation are essentially diseases of debility; they are found in children who are naturally frail, or in others who have been brought into a cachectic condition by some other affection, such as fever, etc. Let these general conditions be improved, it is quite sure that the local affection will improve also; and that, as the general health of the child becomes reestablished, the local health of the articulation will also return. In the treatment of joint-diseases, the surgeon's duty lies, therefore, in the carrying out of simple principles. He must, first of all, look to the general health, and employ all hygienic and medical means to improve and to sustain the powers of his patients—good food, good air, and such tonic remedies as appear applicable, being of primary importance; for, without these, all local treatment will doubtless fail. Specific treatment, such as by mercurial remedies, is rarely required; and it would be better for such remedies to be altogether forgotten, than that they should be generally resorted to in chronic joint-affections. In some few instances they may be of service, but such cases are few and far between.

As to the local treatment of joint-affections, there is but one principle upon which we should always act; and that is, to remove all local sources of irritation by maintaining rest of the affected joint, and to soothe pain. The first indication is best carried out by the application of a good splint to support the limb, leaving the joint uncovered for observation; and the second is well secured by the application of warm fomentations, either by flannel stupes or strips of lint, kept moist by warm water or poppy decoction. Counterirritation in children is hardly ever required, and must be employed with great care and caution. It is very rarely indeed that I have recourse to such a practice, finding other treatment equally efficacious.

The above remarks apply more particularly to

cases in which diseased action is still progressing, although they are applicable to others in which only the effects of disease remain; but, in this latter class of cases, some additional local treatment may be used with advantage; and it is in such that the benefits of pressure are well exemplified. Firm, equal, and steady pressure upon a joint by means of strapping, cannot be too highly extolled; for few things have greater influence in exciting the reabsorption of inflammatory deposit, and thus of restoring the parts to their normal condition.

After these remarks, it may not be unfairly asked if operative interference is ever called for in the treatment of joint-disease when taking place in early life? and to answer this question, I must occupy your attention for a few minutes.

As a general answer, it may without doubt be affirmed that far fewer cases of joint-disease require operative interference in children than in adults; for it must be again remarked, that the natural powers in the repair of mischief are almost unlimited in early life, and operative interference is, as a rule, not only unnecessary but mischievous. Again, it is only in extreme conditions of joint-disease that any operation is ever needed, and then only when the bone is extensively involved and has become necrotic; the suppurative being kept up, and the repair of the disease being prevented by the presence of the foreign body—dead bone; and, if this be removed, the subsequent repair of the part may with some confidence be predicted; it is, therefore, in these cases alone that any operation is called for on account of local conditions. It would be foreign to my purpose to enter into the question of the propriety of operative interference on account of the general failure of the child's health. In certain cases, this practice may be called for, for higher motives than local considerations; for the life of the child may be imperilled unless the removal of the source of irritation be carried out. But, regarding the case purely from local considerations, it is only in cases of necrosis of the articular extremities of a bone that operative interference is demanded; in all others, the subsequent cure of the case may with confidence be left to natural processes. It is not, however, in all cases of necrosis in a joint that operative interference may be required; in many instances, the necrosed bone, if limited in extent, will come away, and recovery ensue. This fact was well illustrated in a case which came under my care in the year 1860.

CASE I. A boy, aged 5 years, had been the subject of diseased shoulder-joint for one year and a half; and for one year suppuration had existed. Partial ankylosis had also taken place. After he had been under observation for some months, a piece of bone came away, which was evidently part of the articulation, and recovery by ankylosis followed.

Instances like this are also met with in adults; I possess several. In other cases, however, operative interference is unquestionably demanded; the diseased bone being either too extensive or too deeply placed for external exfoliation by natural processes. In these instances, its removal by operation is justifiable and essential; and the following case is a good illustration of the practice.

CASE II. A boy, Henry F., aged 5 years, came under my care in July 1861 with a disease in the right

hip-joint of two years standing, suppuration in the part having been present for one year. It was quite clear that total disorganisation of the joint had taken place; and that dead bone existed, as it was readily felt upon passing a probe down the sinus which was present behind the trochanter. Regarding the case as one of disease of the joint, secondary to inflammation and necrosis of some portion of the femur, I proposed an operation for the purpose of its removal; and on August 27th I carried out the practice. Upon making my incision behind the trochanter, a piece of dead bone within the hollow of the trochanter was at once observed; and, on further examination, it was found that the head of the femur had separated at its line of junction with the neck, and was lying loosely in the acetabulum. I therefore thought it best to excise the head and neck of the femur below the trochanter; and the preparation which I now show to you contains the specimen. I may add, that the acetabulum had been deprived of its cartilaginous covering, but was otherwise healthy. Convalescence rapidly followed; and in three months the child got up, and was able to stand upon and flex the limb without pain. The wound also had quite healed. He left the hospital, and unfortunately contracted measles, which reduced his powers extremely; a large abscess also formed in the right thigh below the seat of the original disease. For this he was readmitted; and, after good feeding and tonics, this gradually disappeared, and he left with a good, useful limb. He is now quite well. The limb is about one inch shorter than its fellow, but otherwise it is quite sound. The boy can walk and run freely without the assistance of any stick. He can stand upon the limb alone, and bend and rotate it in any position. Indeed, the result of the case is as satisfactory as could be wished.

This case is given as a good illustration of joint-disease, the result of inflammation and necrosis of a bone. Natural processes could hardly have proved sufficient to get rid of the sequestrum and exfoliated epiphysis; and an operation was, therefore, strongly called for. The success of the case was most satisfactory.

As further illustrations of Nature's powers, assisted but feebly by art, in repairing extensive injury or disease of an articulation, the following cases may be read with interest. They are given as typical examples of distinct classes. The first was the result of injury.

CASE III. A boy, aged 10, was admitted under my care into Guy's Hospital in July 1859, with a compound dislocation of the right ankle-joint, produced by a fall of ten feet off a tree. The foot was twisted to a right angle with the leg; the sole presenting inwards; and the superior articular surface of the astragalus appearing through a large wound below the external malleolus. The articular surfaces also of the tibia and fibula were exposed to view. The fibula was broken three inches up. The dislocation was readily reduced by extension, and the foot fixed in position with a posterior and side interrupted splints; water-dressing being applied to the wound, and powdered ice in a bag around the foot. Everything went on well from the day of the boy's admission; and, when he left the hospital, he was quite well, and, what is more, had good movement in the articulation.

The success which followed the treatment of this

case was most marked, although it is hardly to be expected that in all such severe injuries a good recovery with movement of the limb will follow; nevertheless, I believe that, in a large proportion of like cases in children, an equally good result may be anticipated; and of this I am certain, that it may be obtained far more frequently in children than in adult life.

I must give one other case as an illustration of the recovery of a disorganised joint from disease with movement, as typical of a second class of cases; and will select the ankle again.

CASE IV. A boy, aged 8, had been the subject of joint-disease for three years, and with suppuration for two. When he was admitted into Guy's under my care, the right ankle was riddled with sinuses; and a probe could readily be passed through the articulation. Exposed but not dead bone was also observed. The child's health was bad; and it was a question, when I first saw him, of amputation, as it was feared that the health of the patient was incapable of supporting the tax upon its powers. Tonics and good diet, with perfect rest of the limb, however, worked wonders. With the improvement of the general health of the child, the local disease took on a healthy action; and in six months all sinuses had healed, and diseased action had subsided. In another three months, all appearances of disease had disappeared; and the child left the hospital well, with good movement of the articulation. I have seen the child since, one year after treatment; and the foot is as strong and sound as its fellow.

I might quote numerous other cases of disease of a joint to illustrate the truth of the remark which I made when first taking into consideration the subject of joint-disease—that in almost every instance, even the most severe, natural powers alone are amply sufficient to effect a cure. Time will not allow me to carry out these wishes; but I can fearlessly appeal to the experience of all surgeons to bear out the truth of the remark. Such experience, however, is of little use, if some practical deductions be not drawn to guide us in future practice; and I think that there can be little doubt as to the lesson which it teaches, for it is to leave Nature to herself. Let the surgeon aid to the utmost the natural powers by hygienic and general tonic means, and treat the local disease by placing it in the position in which it is least exposed to sources of irritation and local injury; relieving symptoms, and looking for indications of treatment, with the feeling of confidence that in time Nature's efforts will effect a cure even in apparently hopeless examples.

I must add one word upon the subject of excision of joints in children; and it will be to repeat what must have been gathered from the observations which I have already made—that it is rarely required. In necrosis of a joint, the operation for the removal of the dead bone may be called for; but such cases cannot with fairness be described as cases of excision, for they must be classed with other instances of removal of dead bone.

I have shown also that operative interference is rarely if ever demanded for any other local condition; and although I am prepared to believe that, in the joints of the upper extremity and hip, excision of the articulation may be called for, I am still, as I have always been, disposed to deny the value of the operation when applied to the knee;

the weight of evidence which has recently been adduced certainly tending to confirm me in the truth of this opinion, in which I am now supported by many of the former advocates of excision, who appear disposed to doubt the value of the practice when applied to children.

[To be continued.]

Transactions of Branches.

BATH AND BRISTOL BRANCH.

CASE OF PUERPERAL CONVULSIONS.

By S. H. SWAYNE, Esq., M.R.C.S., Bristol.

[Read Feb. 26, 1863.]

THE following case appears to present features of interest in relation to the vexed questions of the dependence of puerperal convulsions on uræmia, and of the treatment by bleeding.

Mrs. G., primipara, aged upwards of 40, of middle height, rather stout and thickset, expected her confinement about the middle of April 1861. For some days previously to the seizure, she had felt headache and pains in the left side of the neck, and immediately ushering in the attack there was temporary loss of vision.

About 3 P.M., Jan. 25th, a violent convulsion occurred, which lasted for several minutes, and after a short interval of remission, there was another of equal severity. Owing to a mistake in the message, several hours elapsed before I saw her. In the meantime, she was seen by a neighbouring surgeon, Mr. W., who applied mustard to the legs and feet and cold to the head. Some castor oil which had been taken in the morning acted about this time. On examining by the stethoscope, Mr. W. heard the fetal and placental sounds.

When I saw her, consciousness had returned, and she appeared to be considerably relieved. There was no sign of commencing labour. Under these circumstances, a blister was applied to the neck; and after waiting some time, and finding no return of fits, we left her.

I took away some of her urine, which, on examination, I found to be highly albuminous, becoming nearly solid on boiling; and the deposit, after some hours subsidence, occupied about five-sixths of the whole volume.

About twelve at night, the fits recommenced, and Mr. W. again saw her, and administered a turpentine enema, which was retained, but acted after some hours. She had altogether about eight fits up to three o'clock A.M., Jan. 26th.

On visiting her early in the morning, I found nearly complete unconsciousness and considerable restlessness, but no convulsion; pulse full, but not quick; face rather flushed; pupils slightly dilated; a very trifling appearance of swelling about the eyes; but no œdema of the extremities. On making a vaginal examination, I found the os uteri not at all dilated, and no indication of labour. Feeling that further attacks were imminent, I bled her to twenty-five or thirty ounces, without inducing faintness. After the bleeding, the restlessness, in great measure, ceased; but she remained during the day like a person in heavy sleep, but she could be partially roused by speaking loudly or shaking her. I was unable, by stethoscopic examination, to detect the fetal or placental sounds. Calomel and antimony were given at intervals, and a blister applied to the back of the head.

About half past five o'clock A.M., January 27th, after a quiet night, she awoke, recognised her friends, and spoke rationally, although some confusion of intellect remained. Some urine passed at this time was examined, and the albumen found to occupy only one-sixth of the whole volume, after subsidence.

From this time, she steadily improved, although several days elapsed before she had recovered the full use of her faculties. She had no recollection of anything that had passed, from the day before the first fit. There was no return of convulsions, and the albumen speedily disappeared from the urine.

On February 8th, labour set in slowly, and after some hours terminated favourably, without any return of convulsions; the child was dead, and rather decomposed; the cuticle peeling, and the head like a bag, with the cranial bones lying loose in it.

In August following, she again became pregnant; and I took occasion, during the latter months, to examine the urine for albumen, but there was never any trace of it; and on May 13, 1862, she passed through her second confinement favourably.

The points in this case that seem the most important are:—1. The large quantity of albumen in the urine before bleeding, and its rapid disappearance afterwards; 2. The complete recovery from the convulsions and albuminuria before labour set in, notwithstanding that the child was dead; and 3. The absence of convulsions during labour. No other exciting cause for the convulsions beyond the uræmia could be discovered; and that the presence of the fetus in the uterus had little share in bringing them on or maintaining them, would seem to be shown by the cessation of the convulsions and of the albuminuria, notwithstanding the presence of a dead child in the uterus, and by the uterus remaining quiescent for a fortnight after the first fits. That the improvement was due to the measures employed, especially to the bleeding, can, I think, scarcely admit of a doubt.

SOUTH-EASTERN BRANCH: WEST KENT DISTRICT MEETINGS.

ON THE NECESSITY OF COMPARATIVE OBSERVATION IN THE INVESTIGATION OF INJURIES.

By JOHN GRANTHAM, Esq., F.R.C.S., Crayford.

[Read April 24th, 1863.]

I MADE a remark in the paper I read to this Association last year (1862), to this effect: "Surely, there is something due to the power of observation in the investigation of diseases incidental to human nature." I would further pursue this subject, by referring to the importance of *comparative observation*. The cultivation of this faculty must be patent to every one of us in the duties of our profession, whether these duties be considered medically or surgically; and I would fain indulge the hope that the time is not far distant when the unnatural separation of medicine from surgery will forever be done away—the one being inseparable from the other; as the restoration of a disease or the reparation of an injury in any part of the body can only be effected by the vital law of the whole system.

I know that in this statement I am only reiterating the sentiments long ago promulgated by Peyronie of France, and Abernethy of our own country, and probably by many others equally worthy. When I reflect on the early effects of observation, I look back on the time when this principle appears only as a small speck or narrow line which time and experience have assisted in developing. This principle or faculty is pregnant with the amount of knowledge we may be able to impart; and, according to our individual acquisition, forms in after life the one important distinction of character between one medical man and another; it cannot, therefore, be a matter of surprise that the public should suppose that there is something added to the man who may happen to reside in London or some large city, surrounded as he is with so many opportunities of improving and maturing the faculty of observation. Now, the efforts of this Association are tending to remove this apparent