LECTURE XXXIX.

GENERAL CONSIDERATIONS UPON ARTHRITIS IN THE OTHER ARTICULATIONS.

Arthritis is traumatic or spontaneous. I. Traumatic arthritis is with or without a wound—Arthritis without wound is congestive or plastic, and ordinarily gets well by resolution—The elbow an exception in children—It goes on to chronic arthritis and to dry arthritis in old people—Examination of the question with reference to the upper limb and to the lower limb. II. Spontaneous arthritis is multiple, or mono-articular—Examination of the varieties: 1st for the large articulations of the lower and of the upper limbs; 2d for the small articulations—Assimilation of nodosity of the joints to dry arthritis—Difference of origin between gouty arthritis and rheumatic arthritis; analogy of the ulterior lesions.

GENTLEMEN: It would be interesting and useful to do for each one of the other articulations what I have done for the knee, that is to say, to point out to you the different clinical forms under which arthritis may appear in them; but I should not have a sufficient number of examples to show you, because these arthrites are not so frequent as those of the knee, and because certain varieties are treated rather in the medical than in the surgical service; and furthermore it would involve much repetition.

It will suffice to offer you a few generalities upon the subject; and these generalities will be simple and short, for we shall have to deal with the same questions of etiology, pathological anatomy, and prognosis, as in the knee.

In all the articulations the arthritis is either traumatic or spontaneous.

I. *Traumatic arthritis.*—In all of them traumatic arthritis is threatened with suppuration when its origin is a penetrating wound; but the smaller the articulation, the less intense and the less dangerous are the general effects of this suppuration when it takes place. As for traumatic arthritis without wound (that is to say, after fracture, dislocation, contusion, sprain), the form which you see it take most often is, at the beginning, the subacute form, congestive and plastic, with or without effusion of blood or of synovia, and afterwards the chronic form tending to terminate by resolution and return of the normal functions, sometimes by complete or incomplete anchylosis, sometimes by dry arthritis. The differences depend upon the articulation or upon the age of the subject. One word upon these differences.

A. *Articulations of the upper limb.*—Traumatic arthritis (without wound) ordinarily gets well by resolution in children, adolescents, and adults; termination by complete anchylosis is the exception. But after the age of fifty years, and consequently in old people, termination by rigid incomplete anchylosis and by dry arthritis is quite frequent. I have often shown you that, after dislocations of the shoulder, movements are re-established very well in young patients, but that they long remain slow, difficult, and painful in subjects who are advanced in age.

As for the elbow, there is this that is peculiar to it and very strange: children, up to the age of adolescence, are much exposed to anchylosis after traumatic arthritis, even after causes that are apparently slight. You should know this in order not to condemn children to a too prolonged rest. By exercising the joint early you can prevent the establishment of adhesions, or break up those which have already begun.

In the wrist traumatic arthritis has less tendency to anchylosis, and much to end by complete resolution; but after the age of fifty years anchylosis by rigidity alone or by adhesions, prolonged arthritis, and incurable dry arthritis are quite frequently seen. I have often explained this subject when speaking of fractures of the lower extremity of the radius.

In the digital articulations we must distinguish between direct traumatic arthritis, that is to say, that which is consecutive to lesions of the articulation itself which becomes affected, and indirect traumatic arthritis, or that which invades the digital articulations in consequence of the treatment by immobility of a traumatic lesion situated above, in the forearm, elbow, arm, or shoulder. I have told you that in such cases I admitted arthritis by immobility. Although I have had no occasion to make an autopsy, I presume, from facts observed upon the living patient, that these digital arthrites are congestive and slightly plastic. In general they get well by resolution after some weeks or months of care; but we should have to fear, especially in old people, incomplete anchylosis by rigidity, and even complete anchylosis, if we did not have the affected joints moved frequently.

B. *Articulations of the lower limb.*—There is traumatic arthritis, without wound, of the hip as of the shoulder. It is congestive and slightly plastic, and tends always to terminate by complete resolution in young subjects, by prolonged chronic arthritis and incurable dry arthritis in old people.

The same is true of the tibio-tarsal articulation and those of the foot. It is by the age alone that we can foresee whether the arthritis will get entirely well, or whether it will pass to the incurable condition of dry arthritis.

In short, in subjects who are still young, traumatic arthritis, although it be congestive and plastic, is rarely sufficiently so to cause anchylosis, and the treatment by movements communicated every day has the advantage of opposing this tendency successfully, and almost always without bringing back the inflammatory conditions which I mentioned when speaking of spontaneous arthritis of the knee, and which trouble us so often in spontaneous arthritis of the other articulations.

II. *Spontaneous arthritis.*—There is a very common variety, the acute or subacute polyarticular arthritis, which you know under the

name of articular rheumatism, and which you see more often in the medical wards than in ours. It offers these remarkable peculiarities, that it is ordinarily limited to a little effusion in every articulation affected by the congestive form, and complete resolution is the rule. I shall then have to make special reference to the acute and subacute mono-articular arthritis and to some forms of multiple chronic arthritis. Here I need no longer take the articulations one by one; it will be sufficient to describe the large and the small ones of the upper and the lower limbs.

1st. In the upper limb the large articulations rarely become the seat of single acute arthritis, either gonorrhœal, or simply rheumatic. We have, however, met them in those of the shoulder and of the wrist. As for the shoulder, I have been struck with the facility with which, in spite of all our care, this arthritis ends in complete anchylosis. The indication is to oppose this tendency by means similar to those I mentioned for the knee. But it will often happen, as I reminded you a moment ago, that you will not be able to continue the use of communicated movements, on account of the return of acute inflammation.

Among the chronic arthrites there is one variety which you will rarely find in the large articulations of the upper limb, it is hydrarthrosis. You see, on the other hand, fungoid arthritis quite often at the elbow and at the wrist. At the elbow, termination by suppuration is frequent and comes quite rapidly. This fungoid arthritis terminates more often by anchylosis, without preliminary suppuration, in the wrist than in the elbow, and for both these articulations, as for the knee, the indication is always to strive, by all the local and general means at our disposal, to substitute anchylosing, plastic arthritis for fungoid arthritis, which tends to suppuration. It is always the best termination that we can hope for; the means which enable us to obtain it would moreover give a cure by resolution, if the patient was in the very exceptional category of those in whom, after a commencement of fungoid transformation, the synovial membrane can resume its normal, anatomical, and physiological condition.

Primitive and consecutive dry arthritis is sometimes seen in the large articulations of the upper limb, but it is less common there than in those of the lower limb; it prevents the same anatomical varieties.

2d. Among the large articulations of the lower limb the coxo-femoral is rarely affected with acute and subacute plastic arthritis, or if it is affected, the symptoms, on account of the depth of the joint, are so difficult to distinguish from those of the fungoid synovitis called coxalgia that they are easily confounded. For me, when I see after several months anchylosis succeed a disease which has been considered coxalgia, I am disposed to believe that it has been, not a fungoid synovitis tending to suppuration, but a plastic synovitis.

The tibio-tarsal articulation is, after the knee, that which is the most often affected with solitary acute arthritis, and especially with that which has a gonorrhœal origin. The termination there by anchylosis is quite common, and takes place by the mechanism which I described for the knee.

If the articulation of the hip is not frequently affected with acute arthritis, it is in return much exposed to chronic arthritis, especially to the fungoid form in young subjects, and to the dry form in old people. You know that the first description of the arthritis which we call dry, was given for the hip, at the beginning of this century, under the name of *morbus coxæ senilis*.

The tibio-tarsal articulation is less often affected with white swelling and dry arthritis than the knee and the hip, still we see them there quite frequently.

To recapitulate, gentlemen: among the large articulations that of the knee, first because it is the largest and then because it belongs to the lower limb, is the most exposed to all the varieties of single acute, subacute, and chronic arthritis. It is for this reason that I took my principal types from it. But the etiological, anatomo-pathological, and clinical details into which I entered apply to all the large articulations. By placing in relief these four principal forms—plastic, dropsical, fungoid, and dry—the natural tendencies of each one, and the consequent therapeutical indications, I wished to give you the means of directing your conduct at the bedside of the patient whenever you should be called upon to treat an arthritis. But I want to tell you, in closing, that in the large articulations these forms are sometimes mingled and cause difficulties in diagnosis and prognosis rather than in treatment. It will happen to you especially to hesitate long before deciding if a chronic arthritis is simple and still curable, or if it has passed to the condition of incurable dry arthritis, and especially to the variety in which there are as yet no appreciable osteophytes and eburnation. Remember that it is the age above all which ought to enlighten you, and that in any case there is no disadvantage in admitting at first that which is most favourable to the patient, that is to say, curable arthritis, and to make your prescriptions correspond.

3d. As for the small articulations, you will rarely see single acute and subacute spontaneous arthritis in the upper limb, that is to say, in those of the hand and fingers. You will more often see multiple chronic arthritis, that is to say, the simultaneous invasion of several phalangeal articulations, and sometimes of all, by an essentially chronic disease, of probably rheumatic nature, which you hear called *rheumatic arthritis*,[1] and, for the articulations of the last two phalanges, *Heberden's nodosities*. I do not know why they have given these special names to these digital arthrites. Perhaps it was because their ideas were not sufficiently well established as to the varieties of arthritis in the rest of the economy to establish a relationship between those of the fingers and those of the other regions. This relationship seems to me to-day very possible. The clinic has taught us that rheumatic arthritis does not suppurate, and that sometimes it anchyloses by fusion, sometimes it persists indefinitely without anchylosing.

[1] Rheumatism noueux. Rheumatic arthritis, nodosity of the joints.

In the first case, it is a plastic rheumatic arthritis, in the second a dry arthritis. I admit that a rigorous diagnosis, so long as the anchylosis is not established, is a little difficult, as is also the case in the large articulations, but I repeat that that has not a great importance practically. Always try to cure your patient. If after a year or two of treatment you have not succeeded and anchylosis has formed, your diagnosis is made. If anchylosis has not formed, and your patient is old (it is almost always old persons who have rheumatic arthritis), be sure that you have to deal with incurable dry arthritis, with more or less deformity, produced either by bony deposits or by muscular retractions, deformity of which M. Charcot's book offers you very fine plates.

As to Heberden's nodosities, I think they have honoured this physician too much in giving his name to a disease which he has the merit of having distinguished from gout, but which he described without sufficiently knowing the French works of Cruveilhier, Deville, and Broca on dry arthritis. For the little lumps which he found in the dorsal face of the second phalanx, near its articulation with the third, are nothing else than the osteophytes of dry arthritis; they coincide, as M. Charcot has well seen, with some of the other lesions of this disease, especially with eburnation and other osteophytes. It is then simply a dry arthritis in a small articulation

The small articulations of the lower limbs are also affected with the chronic forms of this rheumatic arthritis of old people. You will also sometimes find there acute gouty arthritis, especially at the metatarso-phalangeal articulation of the great toe, and gouty chronic arthritis. I share fully the opinion of Garrod, and that which Charcot has so well formulated, upon the essential difference which exists between gouty arthritis and rheumatic arthritis. I admit very willingly with them that the initial lesion of gouty arthritis is the invasion of the diarthrodial cartilages and the other constituent parts of the articulation by uric acid and the urate of soda. But this initial lesion once established, the anatomical characters of ordinary arthritis are added, simple synovial congestion, with or without effusion, in the acute and subacute varieties; thickening and false membranes in the slower varieties, tendency to complete anchylosis when the patient is old, prolongation under the form of congestive and still curable chronic plastic arthritis, and finally the dry form, with coincidence of the tophic deposits peculiar to gout and the special lesions of dry arthritis. In a word, notwithstanding their special etiology and their peculiar anatomical beginning, gouty articular affections are arthrites, the lesions and ultimate course of which are analogous to those of other articular inflammations, and especially to those caused by rheumatism. That is the reason why they were authorized to consider gout and rheumatism as the same disease, at the time when they did not know the real cause and mode of formation of the gouty arthritis.

PART VI.

PHLEGMONS, ABSCESS, FISTULA.

LECTURE XL.

ABSCESSES OF THE HAND CONSECUTIVE TO SYNOVITIS OF THE FLEXOR TENDONS.

I. Autopsy of a subject whose death was caused by a contused wound of the little finger followed by inflammation of the synovial bursa of the flexors—Putrid infection—Presence of pus in the synovial sheath of the flexor tendons of the little finger—Spread of the inflammation behind the bundle of tendons in the palm of the hand—Its extension to the synovial sheath of the thumb—Integrity of the synovial sheaths of the other fingers. II. Tendinous synovitis of the flexors, partly suppurative—Inflammation starting from the little finger—Abscesses of the thenar and hypothenar eminences, without concomitant palmar abscess—Explanation by a combination of plastic synovitis with suppurative synovitis—Deep diffuse phlegmon of the forearm; its termination by resolution.

GENTLEMEN: I. I place before you an anatomical specimen coming from a man 55 years old who occupied bed No. 38, ward Sainte-Vierge, for about twelve days (from the 23d of December, 1868, to the 5th of January, 1869).

You remember that this man had had the end of the little finger of his left hand crushed by a stone, which had caused a contused wound, occupying the palmar face of this finger between the middle of the ungual and the middle of the second phalanges, and accompanied by fracture of the first of these bones and denudation of the extremity of the flexor tendons.

A suppurative inflammation had been developed and had gained the deep parts of the hand and forearm. Three weeks had already passed since the accident when the man was brought to the hospital. The most prominent symptom then was a most serious general malaise, characterized by frequency of the pulse, prostration, dryness of the tongue, yellowish subicteric tint of the skin, profound alteration of the countenance, and finally a tranquil and almost continual delirium. According to the information which we have obtained, the patient was not given to drink.

As local symptoms we found a very marked swelling and redness of the forearm and hand. The thumb and the little finger were much more swollen than the other fingers. All these parts presented