

is perceptible. There is little doubt that in some cases this is the result of long-continued chronic inflammation; but in others I am led to believe that it takes place independently of inflammatory action; at least, I have seen several cases in which there were no symptoms indicating the presence of inflammation until the disease had reached its most advanced stage; and we well know that at this period of an organic disease inflammation is liable to occur, whatever the disease may be. I am not certain that I have seen this disease anywhere except in the knee-joint, but Mr. Hodgson of Birmingham, has met with it in the joints of one of the fingers.

Where the disease supervenes on repeated attacks of inflammation, there are of course in the first instance inflammatory symptoms such as I described in a former lecture. In other cases, in which it seemed that the disease had not been inflammatory in its origin, the symptoms have been as follows:—

The patient complained not of pain, but of a slight stiffness in the joint, so slight that at first it scarcely attracted his attention. The pain then became more considerable, and on looking at the knee he has perceived that it was somewhat swollen. The swelling and the stiffness have increased, still being unaccompanied by pain, and at last the swelling has attained a large size. On examining the knee at this period, I have found a soft elastic swelling, without any sense of fluctuation, and having somewhat of the same shape that it presents in cases of inflammation of the synovial membrane when the joint is distended with fluid: the principal difference being, that the swelling, instead of being uniform, was more prominent in one part, less so in another, in consequence of the difference in the progress of the disease in different situations. Occasionally the disease is limited to one portion of the membrane. A girl labouring under this disease died in this hospital from some other malady, and on examining the body I found the synovial membrane on the inner side of the knee altered in structure in the way which I have mentioned, while on the outer side it did not differ from its natural condition. The disease has sometimes gone on for two, three, four, or five years, before any further symptoms showed themselves. As it has advanced to the layer of the synovial membrane, which is reflected over the cartilage, the latter has begun to ulcerate, the ulceration being marked, as on other occasions, by aggravation of pain and startings of the limb at night. At this stage of the disease small abscesses form in the substance of the diseased synovial membrane. These gradually make their way to the surface, one coming forward in one place, and another in another, discharging a very small quantity of matter.

When the cartilages are thus ulcerated, and matter is formed in the joint, and perhaps in the substance of the synovial membrane also, the patient's health begins to be affected, as in other cases of articular abscesses, and at this period nothing can be done for him but to amputate the limb. Can any remedial means be employed with success in the early stage of the disease? I used to think *not*, and that is the opinion I have published in my work on Diseases of the Joints: It was my belief that it was a disease not under the control of art: I had indeed seen both local applications and constitutional treatment employed without any good result whatever. But I am not satisfied that this opinion was correct. The following case occurred about ten years ago, and I mention it because I had an opportunity of watching its progress for several successive years:—

A young man, about eighteen years of age, consulted me concerning a disease in the knee. It had then been advancing slowly for five years; there was no pain, and never had been, but the joint was considerably swollen, the swelling being elastic, more prominent in some parts than in others. There was no perceptible fluctuation, but the joint was very stiff, and the disease had all the characters of that which I have just described. I first of all applied pressure

by means of several alternate layers of diachylon plaster and bandage, and this was kept up for a considerable time; afterwards recourse was had to leather splints, secured by a firm bandage, so as to keep the joint fixed at the same time that moderate pressure was made upon it. Constitutional treatment was not neglected. The patient was put through a course of sarsaparilla and the bichloride of mercury. This plan of treatment, occasionally varying the medicine, and still keeping up pressure, was persevered in for three years, with a slow and gradual, but very manifest improvement: and when I last saw the patient the joint was scarcely larger than the one on the opposite side. It was stiff, but he walked very well with an ankylosed knee.

The disease which I have now described is of rare occurrence, and although it may sometimes originate in long-continued inflammation, it is to be distinguished from the pulpy thickening of the synovial membrane which I have formerly described, which is common enough. The appearances which the disease presents are displayed in the drawings and preparations on the table.

Loose cartilages in the knee.

Loose cartilaginous bodies are sometimes found in the joint. They are more commonly met with in connexion with the synovial than the serous membranes, but are not peculiar to the former. They sometimes are formed in the pleura and in the tunica vaginalis, and I have in one instance met with them in the cavity of the peritonæum. In its recent state the large cartilage is generally flattened, smooth on the surface, but of an irregular shape. In the first instance it is connected by a band of membrane which seems to be a continuation of the synovial membrane, to the inner surface of the joint, but at last this membrane becomes ruptured, and then the cartilage is altogether loose in the articular cavity. It has just the appearance externally of the proper cartilage of the joint. When it is of small size it is cartilage throughout, but when it attains a large size, we generally, I might, I believe, say always, find that the bone has been deposited in the centre. When dried it shrinks to so small a size that scarcely any part except the bony centre is perceptible; as you may see in the specimens which I now show you. These loose cartilages form in various numbers; sometimes there is only one, but I have in operating on a single patient extracted as many as five.

The first inconvenience which the patient experiences generally occurs in walking. The cartilage slips between the articular ends of the bones, producing a good deal of pain, interfering with the motion of the joint, and sometimes causing him to stumble. By a little management he contrives to expel it from the situation in which it is lodged, and then he walks home well enough; but he is liable to a recurrence of the accident. The distress which the disease occasions is different in different cases; the difference depending on the circumstance of the cartilage being or not being attached to the synovial membrane, on its size, and other circumstances. In one case it may slip more easily between the bones, and less easily in another. Not unfrequently the patient goes on for years suffering very little from the disease. In other cases, not only does the cartilage frequently slip between the bones, but whenever it does so a violent attack of inflammation of the synovial membrane takes place, so that the patient is laid up, perhaps, for weeks. After a time it would appear as if the constant slipping of the cartilage between the bones injured the articular cartilage and caused them to ulcerate. Here is a specimen where there were two loose cartilages in the joint; the cartilage covering one of the condyles of the femur is ulcerated to a considerable extent, but without suppuration. In this case the patient used to suffer more than the usual amount of pain in the joint, whenever the cartilage slipped in between the articulating surfaces.

These cartilages may be removed by an operation, which I have performed several times. In some instances no in-