SURGICAL PROCEDURES IN GENERAL PRACTICE

This is one of a series of articles contributed by invitation

INJURIES OF THE SEMILUNAR CARTILAGES—II

BY

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(Concluded from p. 1151)

Treatment of Recurrent Cases

Repair in cases of injury to the semilunar cartilages is very sluggish, and as blood vessels can only be traced in the region of the peripheral border it is probable that true repair is largely confined to minor peripheral fractures of the menisci. This is the probable explanation of the frequency with which the original injury is followed by recurrent symptoms. The latter are well known and need not be recapitulated in detail. At first the recurrent attacks are often associated with considerable reaction, but as a rule the attacks of locking, although possibly becoming more frequent, are associated with a diminishing degree of reaction and inconvenience. There is, however, a serious risk of the onset of arthritic changes, and the patient should always be warned of this danger.

Treatment of Recurrent Cases by Operation

Often operation is delayed for many years because of the slight inconvenience, and eventually the patient seeks advice owing to the fact that the recurrent attacks are associated with increased disability. The ideal time for operation has, needless to say, then passed, although such operation may be worth while. Early operation in recurrent cases should be strongly urged, and removal of the offending cartilage is the best insurance against the onset of arthritis. Provided arthritic changes have not supervened, the operation in skilled and experienced hands has become in modern times one of the most successful in the whole realm of surgery. Opinions differ as to how much of the damaged semilunar cartilage should be removed, and in any case this must depend upon the actual nature of the injury.* When there is any doubt, I believe that the wisest plan is to remove the whole cartilage by some such operation as my combined method (Figs. 5 and 6). This does not necessitate a large operative exposure, and permits actual inspection of the back part of the cartilage, instead of blind and unsurgical groping through an exposure anterior to the corresponding lateral ligament.

The anterior end of the semilunar cartilage is first exposed by means of a curved incision through skin and capsule anterior to the corresponding lateral ligament, and sometimes this exposure is sufficient. If exposure of the back part of the cartilage is considered necessary, all that is required is to prolong the anterior skin incision backwards and upwards, thus making a small flap with its convexity downwards. This flap is reflected upwards and the back part of the semilunar cartilage exposed by a second capsular incision posterior to the corresponding

lateral ligament. It is sometimes argued that it is unnecessary to expose the back part of the cartilage because, if it is injured, it springs forward with traction upon the anterior portion of the semilunar and can be readily removed through the anterior incision. It is certainly true that this sometimes happens; but since adopting the

FIG. 5.—Diagram showing my method of exposure of the semilunar cartilage. P. = Patella. L.P. = Patellar ligament. I.L.L. = internal lateral ligament.

FIG. 6.—My method of exposure of the semilunar cartilage.

above technique I have been impressed by the number of cases in which exposure of the posterior part of the semilunar cartilage has revealed a severe lesion which it has not been possible to remove through an antero-lateral incision.

A word of caution is necessary against the practice of removing only the displaced handle of a bucket-handle lesion of the cartilage. In discussing the aetiology of this lesion it has been pointed out that the whole cartilage is detached, ground between the femoral and tibial condyles, and longitudinally split. The attachments of the peripheral portion must therefore have been severely damaged, and in my experience it frequently gives rise to subsequent trouble. There is no evidence that removal of the peripheral part of the bucket-handle lesion has any effect upon the stability of the joint.

It may be argued that such highly technical operative points do not concern the general practitioner. This is, however, not the case, for some of the blame for an

* This question is discussed in greater detail in my book *Internal Derangements of the Knee-joint*, 2nd edition, H. K. Lewis and Co., Ltd.

unsuccessful operation is apt to fall upon his devoted head, and any suggested operation should be fully and freely discussed between specialist and practitioner.

Operation in Complicated Cases

In some cases a lesion of a semilunar cartilage is associated with injury to the tibial spine, with the presence of one or more loose bodies, or with osteo-arthritis changes, and an extensive exposure of the whole of the anterior compartment of the knee-joint is desirable. In such cases my patella-displacing operation, in which the joint is opened by a long paramedian incision and the patella displaced towards the outer side of the joint, gives a complete exposure. I have never observed any interference with function that could be traced to this more extensive exposure.

Prognosis after Removal of Semilunar Cartilage

The prognosis, assuming a correct diagnosis and a satisfactory type of operation by an experienced surgeon, depends upon two principal factors: (a) the number and severity of the attacks; (b) the presence or absence of arthritic changes. With regard to the former, repeated attacks of locking or giving way of the joint followed by effusion lead in time to a certain amount of stretching of the joint ligaments and joint instability. In such cases operation may be of great benefit in curing the attacks of locking, but a certain amount of joint effusion after exercise, with a feeling of weakness and insecurity, may persist for awhile. This fact obviously constitutes an argument for early operation in recurrent cases. With respect to the second of these factors, although arthritis of the osteo-arthritic type is more apt to occur in neglected cases in middle life, it may occur in the knee-joint at a comparatively early age when operation is unduly delayed. In such, operation will probably cure the attacks of locking and may call a halt to the arthritic process, but it is obvious that it can have little effect upon the changes already present. This fact also shows the importance of early operation when recurrence of symptoms has become established.

If cases in which arthritis has supervened are excluded the results of operative removal in modern times by those with special experience are extremely satisfactory, and the progress that has taken place in recent years is shown by the following table:

	1911 Figures* per cent.	1932 Figures (my own) per cent.
No recurrence of attacks. . .	82.02	100.00
Knee as good as the other . .	56.17	91.80
Movements perfect	86.51	98.36
No change in shape	76.40	83.60
Knee painless	48.31	81.96

* Power, D'Arcy (1911). *British Medical Journal*, 1, 61.

My figures include a few cases in which both semilunar cartilages were removed from the affected knee; the results of such treatment are also good. One patient, a professional footballer, from whose left knee I removed the external semilunar cartilage in 1926 and the internal semilunar in 1927, is still playing a good game.

Treatment of Recurrent Cases by Mechanical Methods

It will probably be generally conceded that the various knee-trusses and other forms of apparatus sometimes worn in an attempt to prevent attacks of locking are, as

a rule, inefficient and unreliable. The results of removal of the offending cartilage by operation in experienced hands are so satisfactory that the only conditions that justify the attempt to control recurrent attacks by apparatus are those cases in which operation is contraindicated on account of age or illness.

Manipulation in Recurrent Semilunar Cartilage Lesions

A well-known bone-setter used to claim that he could bring about "the radical cure of derangements of knee cartilages without operation." What is the truth about this matter concerning which controversy has raged for so many years? It is probable that many of these "cures" were of minor injuries of the menisci which had become tethered by adhesions, and manipulation in such cases is now known to be of proved value. It is clear from physiological reasons that actual cure by repair of the torn fragments in recurrent cases is probably impossible. The fractured surfaces become covered with smooth fibrous tissue, and even if apposition between the fragments could be obtained by manipulation it would be difficult to imagine conditions less favourable to repair. It must be conceded that in some recurrent cases associated with definite locking a temporary relief from symptoms has been obtained by manipulation. In my opinion such relief is due to the fact that either the fractured portion has been freed from adhesions tethering it in some abnormal situation, or the handle of a bucket-handle lesion has been firmly forced into the centre of the joint, where it has been temporarily out of harm's way and has become fixed by adhesions. Experience teaches, however, that the "cure" is rarely lasting, and when strenuous conditions must be faced such treatment by manipulation is usually a poor substitute for operative removal. It may be tried, however, when operation is refused or is inadvisable, and when there is no likelihood of subsequent strenuous use of the limb.

MINOR INJURIES IN CIVIL BOMBARDMENT

DR. TRUETA'S ADDRESS

The City Division of the British Medical Association called a meeting on December 5, which was open to all practitioners, to hear an address by Dr. J. Trueta of Barcelona on "Medical and Surgical Assistance of Minor Injuries in Bombarded Towns." The Great Hall of the Association House was entirely filled. The chairman, Dr. C. O. S. Brooke, said that in previous discourses before the Royal Society of Medicine, notably the one published in the *British Medical Journal* of December 2 (p. 1073), Dr. Trueta had dealt with the more serious injuries. His purpose on this occasion was to deal chiefly with minor injuries and their differentiation from the more serious.

Dr. TRUETA began by pointing out one respect in which the treatment of casualties due to bombardment of towns had an advantage over the treatment of the injured in ordinary military operations. Surgeons could not operate in the front line of battle; casualties had to be evacuated to the rear, some of them perhaps a considerable distance behind the lines. In the case of bombarded towns, however, the injured could be treated on the same principles as those hurt in road accidents—that is to say, any operative procedure could be undertaken almost at once on removal to the nearest hospital.

Many injuries in every air raid were caused by small splinters from the explosion of light bombs. The distribution of such splinters was horizontal, so that a large number of wounds were received in the leg and lower abdomen. Often the deeper