

CASE OF COMPOUND COMMINUTED FRACTURE OF THE PATELLA.

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(Read at the Ontario Medical Association.)

Compound comminuted fractures of the patella are rare injuries. They are always considered dangerous, threatening destruction of the knee-joint and also frequently of life itself.

Doubtless many unsuccessful cases are not reported. Of those which have been reported the results appear to be unsatisfactory. For instance, it is recorded by Poland that out of 85 cases 20 proved fatal. Suppuration occurred in 63, and 31 terminated in ankylosis.

The dangerous results apprehended are violent inflammation of the joint, with ulceration of the cartilages, irritative fever, secondary abscesses and pyæmia. Cases are reported of atrophy of the limb, or painful and adherent cicatrices, having resulted from this injury. When the patient is in poor health or possessed of a scrofulous diathesis, all the dangers are intensified.

The following case occurred in the fall of 1882, under my own observation :

A. T., aged 45, of good constitution and fair general health was driving home in a light waggon when his horse began to kick furiously. Realizing the danger he suddenly rose with the intention of jumping out. While in this act of springing out of the waggon, and when the knee was partly bent with the rectus-femoris in a state of tension, the patella received the full force of a kick from the horse. Not aware of the injury he sprang out, alighting on the road upon his feet. The injured knee bent under him, and he fell to the ground. Having been conveyed home an examination of the wound was made in an hour after the accident had occurred, the patient being under the influence of chloroform.

Externally there appeared nothing but a wound, about two inches in length, extending transversely across the upper third of the patella. Inserting my fingers into this external wound, I found that the whole of the upper third of the patella had been broken in several fragments, some partially and others almost entirely detached. Internally the wound extended around the fragmentary portions of the bone by a radius

of about three inches on either side and above. At the time when he alighted on the ground, after the fracture had occurred, the quadriceps extensor, contracting powerfully, had drawn the fragments of bone upwards and lacerated the tissues around the joint. In this manner occurred this extensive internal wound. Considerable oozing of blood had taken place in consequence of the lacerations and of the effort to move about after the accident. Thus the cavity contained effused blood and loose fragments of bone. An incision was made, commencing at the external angle of the wound (over the patella) downwards and backwards about $2\frac{1}{2}$ inches. The internal surface was thus freely exposed, and all the fragments were removed, including those partially detached. The cavity was then carefully sponged out with carbolized water, and the surface of the wound thoroughly cleansed. The edges of the wound were now loosely stitched together, and carbolized dressing applied externally. No attempt was made by retentive apparatus, splints or other contrivance to secure ligamentous union, and the wound was allowed to heal by the first intention.

The patient made a rapid recovery, and in a short time was able to walk about with a cane. Now he can walk without his cane and complains only of a slight weakness of the joint in going about. There is no ankylosis. The power to lift the leg when in a position with the knee bent, is not lost, and otherwise he has a very useful limb.

In this case the only points to which we wish to refer are :

1. The results of this injury were rendered more satisfactory by removing all source of irritation, and endeavoring to secure rapid healing without the use of any retentive apparatus such as commonly used in simple fractures of the patella.

2. The free incision at the *external angle* of the wound, permitting the removal and free escape of all effused fluids, prevented infiltration of the surrounding tissues, and greatly assisted in restoring the usefulness of the joint.

3. By closely stitching the external wound caused by the blow, and by confining loose fragments, effusions, and pent-up discharges, greater injury to joint structures would have occurred and greater separation of the parts.