

far more limited than surgical writers are in the habit of enumerating. Of these conditions, constitutional and local are the principal. From the first we may have general physical debility and consequent atony of the injured parts; a lack of vascular action and supply, not only in the broken bone, but also in other parts of almost paramount importance, namely; the structures and soft tissues immediately surrounding the broken fragments. As to the local causes; occasionally it may be somewhat difficult to arrive at their precise nature, but, as Gross observes, it is not improbable that their influence has been greatly exaggerated.

Some writers would fain persuade us to believe that the absence of reparation in these cases altogether depends on the relative situation of the fracture and nutrient vessels of the bone, as for instance, that fractures in the upper part of the shaft of the humerus fail to receive sufficient nourishment in consequence of the downward course of the nutrient arteries, and in like manner we are given to understand that when the lower ends of the bones of the fore-arm, or femur, are broken, that we must expect union to be more or less delayed, because the arteries of the bone take their course upwards, and thus forsake the damaged parts. But it is certainly fortunate as well as true that in spite of the opposite course of these nutrient vessels, union is generally obtained in very good time. The soundness of such a theory is very questionable, for many of the best practical surgeons tell us that they have met with cases of delayed union where the fractures have occurred in those parts of the bone usually traversed by the nutrient arteries, about as often as in parts which are said to labour under the disadvantages of deficient supply, and that, in either situation, the length of time required for final and complete consolidation has been about the same. With this statement I fully concur, after experience in and observation of these matters for the last forty years. Norris, in his analysis of forty-one cases, found that twenty-seven were in the direction of the nutritious arteries, and only fourteen in the parts *supposed* to be less nourished.

In these unpromising cases, it is always expedient to obtain consolidation by the safest and most simple method, studiously avoiding all extreme measures, for the mere irritation produced by a seton will occasionally lead on to diffuse inflammation, sup-

uration and very disastrous results. Excision is still more hazardous, for, although the operation has been successful in some cases, in others it has proved fatal to the patient; moreover, instances are recorded in which these operations have been well borne, but yet entirely failed to cure the fracture. A very interesting case of the sort is detailed in part forty-seven of Braithwaite's Retrospect.

Celsus, in his eighth book, says:—"If the fracture is of long standing, the limb must be extended to create a fresh injury, the bones must be separated by the hand, and the surfaces may be roughened by rubbing against each other, and if there be any fatty substance it may be abraded, and the whole may become as it were recent."

This plan of the old Roman doctor has been much too sparingly employed, even down to the present time. Some surgeons of the present day know its value, and generally adopt it in the treatment of their cases; but the majority incline more to the high pressure system, and regard the good old plan as too slow and tedious, and though it may appear so to them, it is certainly, on the whole, by far more reliable than any other method, when patiently and properly carried out, having in very many instances succeeded after all other means had utterly failed.

STRANGULATED FEMORAL HERNIA.— SUCCESSFUL OPERATION AFTER TEN DAYS' STANDING.

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On the morning of the 22nd of December, 1877, I was called to see W. W. Bingham, aged 53 years, painter, and found him suffering from a tumor in his left groin, which, on examination, proved to be a strangulated femoral hernia. The patient states that the rupture first appeared about eighteen months ago, after lifting some heavy merchandise upon a truck; but he had always been able to reduce it, by lying in a prone position and performing taxis, up to the 12th of December, 1877, when painting at a height that required some effort to