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OPERATION *versus* TAXIS IN STRANGULATED HERNIA.

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INTESTINAL obstruction is a surgical emergency and brooks no delay. Strangulated hernia is one of the common forms of intestinal obstruction, and therefore the treatment of such a condition must be prompt and effective if life is to be saved.

By strangulated hernia I wish to definitely mean a hernia which contains bowel, the lumen of which has been wholly or partially obstructed by pressure from without, and at the same time the circulation through the vessels in its wall is interfered with. I am quite ready to admit that omentum alone within the sac of a hernia may, under special circumstances, lead to symptoms resembling those produced by intestinal obstruction. Simple compression of the omentum does not cause such a train of symptoms—absolute constipation, vomiting, abdominal distension, and collapse—for if it did, then why should no such symptoms follow when it is tightly constricted by an aseptic silk ligature, or again, when it is nipped by the abdominal wall in some cases of prolapse through penetrating wounds of the abdomen?

In every case of strangulated hernia, and even in those instances where there is a doubt as to the actual compression of bowel, two lines of treatment at once offer themselves—taxis and operation.

Taxis may obviate operation; operation may have to follow ineffectual taxis; or operation may be performed without any previous attempt at taxis.

It is well to have clearly stated what is meant by these two words. Taxis is the endeavour by external pressure, rightly applied, to reduce the contents of the sac into the abdomen;

operation is the exposure and opening of the hernial sac by incising the tissues over it, and the return of the contents of the sac within the abdomen, after the passage into that cavity has been increased in size if necessary.

When then should taxis hold the premier place, and when operation? At the two extremes of life—infancy and extreme old age—taxis is the form of treatment which is the safest, and that which is usually performed. But I venture to think that operation in the form of herniotomy is far more to be preferred than taxis in the majority of cases of strangulated herniæ occurring in middle life.

The specific advantages of operation are to my mind the following :—

(1) The contents of the sac will be entirely spared the risk of serious injury by the manipulation to which they are subjected by taxis. There is a very grave and real danger of producing ecchymoses in the wall of the bowel, and I am sure that the failure in the recovery of the bowel after reduction is, in many cases, due to this bruising setting up inflammation. Moreover, actual laceration is not unknown as the result of indiscreet taxis.

(2) An accurate investigation of the condition of the contents of the sac can be made after incision. When they are exposed to view, there is also the certainty that they will be dealt with in the way in which their actual condition demands.

(3) The fluid which is exuded from the blood vessels of the bowel wall into the cavity of the sac rapidly becomes septic owing to the passage of micro-organisms through the congested intestinal wall, and among these the most frequent is the bacillus coli communis, so often the producer of septic peritonitis. This fluid must of necessity be returned into the abdominal cavity if taxis is employed with success; on the other hand, if an operation is performed, all the fluid contents of the sac can be thoroughly washed away by an antiseptic solution, and the viscera cleansed before they are returned.

(4) Further, a herniotomy enables the surgeon to proceed to the obliteration of the sac and the more or less complete closure of the aperture through which the hernia has escaped —both with a view to the prevention of the return of the protrusion. Such a complete operation will, moreover, do away with the likelihood of a recurrent attack of strangulation,

which the patient still remains ever liable to when treated merely by reduction and truss.

On the other hand there are certain facts which tend to militate against a perfectly safe performance of an operation for the relief of a strangulated hernia :—

(1) The careful preparation requisite in order to secure that asepsis which is all important takes some time, in fact, a not inconsiderable amount, all of which period the contents of the sac remain strangulated, their circulation impaired and their nutrition endangered.

(2) A general anæsthetic is usually required, and this in itself is not without its dangers, for there is no time for any preliminary preparation for it, and the patient has in most cases repeated attacks of profuse vomiting, which are highly hazardous under an anæsthetic. Many of the smaller sized strangulated herniæ can be satisfactorily dealt with by operation with the use of a local anæsthetic alone, but a thorough operation with a view to cure can hardly be performed under these conditions.

(3) Sepsis should of course be easily avoided and certainly so, but failure to obtain asepsis may occur, and this complication is so serious a matter that the fear of it deters many from operating before applying taxis. Suppuration in the abdominal wall might not lead to anything more annoying than delay in the process of healing, but infection of the peritoneum may cause fatal septic peritonitis.

(4) If too free an incision of the structures forming the stricture be made, a larger aperture may result than was present before and a worse hernia follow.

(5) Also after operation a patient is confined to bed for some length of time.

(6) Lastly, there has to be taken into account the not unnatural shrinking, on the part of the sufferer, from any procedure which necessitates an incision.

It must be always remembered on the other hand that taxis improperly applied may do more than merely bruise intestine—a circumstance in itself sufficiently grave—it may actually lacerate or even rupture the bowel. Such a piece of gut may then be returned within the abdomen only to set up a fatal inflammation of the serous membrane.

Furthermore, so-called reduction *en masse* may be occasioned, leading to a belief that a satisfactory return of the contents

has been brought about—a belief only to be rudely shattered by the continuance of the symptoms quite unabated.

Again, there is always the possibility of returning bowel which will fail to recover itself within the abdominal cavity.

While urging that operation takes the premier place in the treatment of most cases of strangulated hernia, yet there are certain cases already hinted at in which taxis should probably always be resorted to, at any rate as a first measure.

One particular class of such cases is that of strangulated herniæ in infants. In these strangulation never seems to be so very acute, and reduction can nearly always be easily accomplished by inverting the young patient, or by the application of taxis. Against operative measures, moreover, in infants, is the very marked tendency their herniæ have to undergo spontaneous cure if controlled by a proper steel spring truss, worn night and day, and the child at the same time is correctly dieted.

Another class of case consists of old persons who are very feeble, or who are excessively obese, and especially those who are the subjects of chronic bronchitis and emphysema, together with a dilated heart. In such taxis should undoubtedly be employed. Any contra-indications to a general anæsthetic, such as advanced cardiac disease, might also be taken as a direct indication for the use of taxis, as, moreover, are the constitutional conditions of diabetes, marked renal changes, &c., which in themselves tell much against the success of an operation.

To sum up, operation for strangulated hernia is to be undertaken without previous taxis in a patient who is otherwise healthy and in a fit state for an operation, because it allows a complete examination of the contents of the sac, and the proper dealing with them according to the condition in which they are found, and further, because a radical treatment of the protrusion can be accomplished at the same time. Taxis is decidedly dangerous when improperly applied, and even when performed in a perfectly legitimate manner may lead to the reduction of damaged intestine, or of septic fluid which the sac contains. The golden rule of treatment in a strangulated hernia—"when in doubt, operate"—is verily a sound one, and it has been the intention of this paper to emphasise it and to make its application still more extended.