Case of strangulation of the jejunum released by gastrotomy : with observations on the diagnosis and treatment of intestinal obstructions within the abdomen / by Joseph Ridge, M.D.

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OF

Intestinal Obstructions within the Abdomen.

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M.DCCC.LIV.

CASE OF STRANGULATION OF THE JEJUNUM RELEASED BY GASTROTOMY,

ETC.

THE pathological consideration of cases of intestinal obstruction, the means of their accurate diagnosis, as far as this may be possible, and their treatment by operation as well as by therapeutical agency, constitute topics of the greatest interest and importance, and inquiries which serve to mark the rapid advance of practical medicine and surgery in the present day. Bearing them in view, together with the best method of aiding the investigation and of promoting these great objects, I thought it right to lay the particulars of the following case before the Hunterian Society, more especially as the president, Mr. Hilton, has contributed largely to this improvement by opening the abdomen judiciously on other occasions, as well as in the present instance. I will proceed to detail the case, and subsequently append the conclusions to be deduced from it, in connexion with an enlarged and daily augmenting experience that may now be applied by the profession in a demonstrative manner to the questions involved.

CASE. On the 11th of August last, I was summoned at

night, by Mr. John Chapman, of Norwood, to a young gentleman suffering under the most urgent symptoms of obstructed intestine. It appeared that he had not been the subject of any injury to the abdomen, nor of any marked inflammation within its cavity; but it was ascertained from his father after his death, that he was always liable to sickness, with constipation and abdominal distress, which had hitherto subsided under complete abstinence from food and rest, without the administration of medicine, so that it was at first thought he was simply suffering from one of his usual attacks. These facts are worthy of record as helps to the recognition of a congenital lesion; being referrible probably to partial descents of intestine through an opening which was found in the mesentery, and spontaneous reductions, promoted by recumbency, the diminution of fulness of the stomach and bowels and of the vessels of the structures concerned, and other influences: they cannot, however, be considered pathognomonic of this peculiar defect, of which I may at once state that I do not at present know, and cannot easily conceive any positive diagnostic signs. Concurrent with these accessions, and doubtless in some measure dependent upon them, was a general delicacy of health, which in other respects had been undisturbed, except by a tendency to headaches the last few years. His frame was slight, but his stature was not disproportioned to his age; and a remarkable wasting and flabbiness exhibited on my visit had taken place to a significant degree since the commencement of the recent illness. For the particulars of this severe manifestation, and its treatment during the first four days, I am indebted to Mr. Mirian Hill, a very intelligent pupil of Guy's Hospital, at whose lodgings in Blackfriars the patient was resident at the

period of the invasion, and where he was attended by Mr. Hutchinson of New Bridge Street, before his removal home, whither he was followed by this excellent friend, who continued to watch over and wait upon him with unremitting and most devoted attention.

E. N., a lad about fourteen years old, whilst staying in London shortly after leaving school, was attacked suddenly with a violent pain in the abdomen before retiring to rest on Saturday, the 6th of August. On that morning he had been much over heated by running after an omnibus, and was afterwards exposed for several hours on its roof. The bowels had for some days been inactive, but otherwise he had enjoyed his usual health up to the moment of seizure. During the night the pain increased, and was relieved by a mustard poultice, after which he slept a few hours.

Sunday morning. The pain had returned severely. Vomiting, which took place once or twice in the night, had become frequent. The matters cast up were mixed with a considerable quantity of bile; the countenance was anxious; the cheeks were flushed. He was very restless during the cessations of retching; the pulse was full and strong. He complained of pain, beginning on the left of and a little below the umbilicus, and extending thence towards the right side. A dose of castor oil was given, and shortly afterwards rejected. About 1 o'clock, the vomiting having ceased, and the pain having somewhat subsided, an aperient draught, containing a scruple of carbonate of magnesia and two drachms of sulphate of magnesia, in dill-water, with some syrup of ginger, was taken, and after a short time was cast up, and the vomiting increased considerably; the pain, too, if possible became more violent. Flannels, steeped in hot water, and applied to the abdomen, afforded some relief.

Sunday evening. No further attempts had been made to relieve the bowels. On examination of the abdominal surface, nothing abnormal was detected. Pressure upon the abdomen appeared to diminish the pain; the hot fomentations were constantly renewed, and a small quantity of laudanum was sprinkled over them. During the night vomiting was frequent. The ejected fluids were highly tinged with bile, but free from fæcal taint. He obtained a few brief intervals of sleep.

Monday morning. The pain and sickness remained as before. The pulse was thready and weak; the eyes were sunken, and their areolæ darkened. The features generally had a shrunken appearance. No tumour or appreciable source of impediment could be discovered in the abdomen. Three grains of calomel were ordered to be taken every three hours, and the fomentations as before.

Monday evening. An injection of gruel, with castor oil, had been twice administered, and retained; the calomel was discontinued. In the night he was restless and feverish, but the other symptoms were rather diminished. Another injection was thrown up and retained.

Tuesday morning. An enema had again been applied, with the addition of some black draught to the gruel. A short time after its repetition at noon, a motion was obtained. Subsequently several evacuations took place, and most offensive matter was passed, together with apple-pips, plum-kernels, and other indigestible substances.

Tuesday evening. The vomiting had abated, and for a part of the day had ceased. He looked better: the pulse was weak, and at times slightly intermittent. At night he wandered a little, and a draught containing morphia was given; but the excitement increased to such an extent, as

to require the efforts of the attendants to prevent his getting out of bed, and rushing about the room.

Wednesday morning. A little tea had remained on the stomach; but the vomiting recurred at intervals; change of posture seemed to bring it on. He was very weak. In the course of the day he was removed, with every precaution, to his parents' home at Norwood, and bore the journey without any attack of retching. This, however, came on at once on his arrival, and symptoms of prostration became more manifest.

He was now placed under the care of Mr. John Chapman, who endeavoured to allay the sickness by an effervescing mixture, containing hydrocyanic acid and the tincture of hyoscyamus; and in the evening, and at different periods of the following day, administered pills of colocynth with hyoscyamus, and draughts of the carbonate with small quantities of the sulphate of magnesia, with tincture of henbane, and the compound spirit of ammonia.

When I saw him at midnight, on the sixth day of the attack, or early in the morning of that day week on the night of which he was suddenly seized, I found his countenance and manner expressive of the deepest distress. His hands and forearms were livid red and cold, and were cast about him in despair. His neck, exposed by constant and painful jactitation, was dusky, chilled, and damp. The pulse was very small, feeble, and quick. He had just vomited a scanty bilious fluid, which was without any feculent trace whatever; and the last injection returned exhibited no stercoraceous character. The tongue was morbidly red. The abdomen was depressed at its lower half. There was no hernial protrusion, and no prominence perceptible at any spot except to a slight degree just above and to the left of

the umbilicus, where much tenderness existed, and whence a fulness extended over the epigastrium; and this was not considerable, but disproportioned to the contracted appearance displayed below a division thus created. Over this upper part of the cavity, there was more, though not great, resonance on percussion, which elsewhere did not afford a tympanitic sound. A teaspoonful of beef-tea and brandy, by which attempts had been previously made to support him, was given, and at once rejected. It seemed that the entire alimentary track was thus kept empty, the obstruction being complete. The steady advance of the symptoms related, with the exception of some relief attending the evacuation of the colon by the enemata, which had since returned unmixed; the free discharge of bile from the stomach, and of all ingesta swallowed; and the absence throughout of the least stercoraceous vomiting, though the bowels were not soon relieved of their old and retained supplies, confirmed my impression that nothing could pass through the strictured part in either direction. The retraction of the abdominal walls in the course of the colon, and in the hypogastric region, led me to reject the large and the lower portion of the small intestines, and to conclude, from the moderate character of the previous symptoms (all of which augment usually in rapidity and severity as the restriction approaches the pylorus itself) that it could not be the duodenum, whose bile was rejected abundantly from its entrance at least, but some part of the jejunum that was obstructed by a cause operating from without the tube, when pain, corresponding more or less in locality, is in general sudden and greatest, and continues or increases with strangulation. The urine was scanty; and I regarded this, not as diagnostic of an or-

ganic lesion, or of its situation, but as corroborative evidence of the extent to which the system had been drained by the urgent vomiting, and the obviously contracted state of by far the greater part of the canal—effects by which the supplies become arrested most when the impediment is nearest the stomach, and, above all, complete. I am not anxious, however, to lay undue stress upon phenomena, present and absent, which induced me to believe that the obstruction was at the jejunum, and not inflammatory or partial, but mechanical and impassable; because such an analysis of a mental process, unless perfect and closely followed, is apt to lead to deception and error; and I have maintained that the grounds of exact diagnosis lie in a just appreciation of all the antecedents that can be obtained, and the entire assemblage of symptoms presented by the individual case, on which the practitioner must exert his personal experience and sagacity.

The only question concerning medicinal agents that could be entertained when I first saw the patient was the propriety of administering opium, strongly indicated by the extreme irritability of the canal above the obstruction. But, looking to the state of inanition which was present, the delay of the circulation at the capillaries, and the diminished power of an ill supplied heart that seemed already to threaten failure, and the little aid to be anticipated beyond a partial diminution of suffering under evidence of external occlusion, it seemed unsafe to wait the effects of this medicine, when manual interference was likely to prove the ultimate and only source of relief. It was considered carefully whether we might not give it till the morning, or rather the noon of the day which had just begun; and, in the absence of any amendment, then recommend

gastrotomy. I could not undertake the responsibility of delay, when twelve hours might terminate life, or place the patient beyond surgical assistance; and the hope seemed so well founded of releasing the intestine by operation, and time only afforded for the remedy which supplied the best chance of saving existence, that, under the conviction that pain and vomiting would readily cease if the passage were set free, and that by nutrition and stimulation thus permitted, the powers might regain their integrity, I deemed it right and just to conclude that the abdomen should be opened as soon as possible, and that the surgeon who had performed this operation with most success should be consulted regarding it. In these opinions Mr. Chapman and Mr. Hill coincided; and, within little more than half an hour from my arrival, the messenger was sent to Mr. Hilton, and brought him in time to operate at 2 A. M. After making his observations, and weighing with his usual caution and judgment the facts and arguments laid before him, and hesitating also somewhat regarding the exhibition of opium, Mr. Hilton fully concurred in the diagnosis formed, and in the propriety of the operative procedure for the relief of the symptoms. The amount of suffering induced, and the appalling characters presented, removed all objections on the part of the patient and his relatives to an exploration in itself alarming, and involving a new cause of shock and inflammation. The room was made warm by the aid of a large fire, the patient was brought to the side of his bed, and the operation was soon completed. Immediately afterwards he expressed himself as suffering less. Some beef-tea and brandy was swallowed, and remained down without producing any inconvenience; and thus a very striking contrast was afforded to his condi-

tion, previous to the release of several inches of the jejunum from the mesenteric opening by which it was more or less strangulated. Fluid aliment of this kind was repeated at short intervals, without causing sickness or nausea. A grain of opium was given when he was restored to an appropriate position in his bed, with an aspect remarkably improved; and another was ordered after three hours. He continued to take nourishment in comfort, and asked for some coffee the family were taking for breakfast, and was allowed a cup containing an equal quantity of milk. Arrow-root and egg beat up with wine were subsequently given; but symptoms of exhaustion returned in the afternoon, in spite of persevering attempts to sustain him, and he sank gradually at ten o'clock in the evening, after remaining free, to the surprise and satisfaction of his friends, from all the characteristic local and general distress which had undermined his strength so fatally. Some restlessness continued for a short time after the operation, and he occasionally expressed a desire to pass a motion or urine, but no evacuation of either kind is said to have occurred—circumstances easy of explanation by the previous comparatively empty conditions of the alimentary canal and of the circulatory system, and the impaired functions of digestion and absorption.

A *post mortem* inspection, though much desired, was not pressed upon the family, deeply afflicted by his loss, but most grateful for the efforts made to prevent it, and for averted agonies.

Remarks. The inference to be drawn from this case, in conjunction with others that might be referred to, is that which may be laid down as a general rule that should

regulate the suggestion of surgical interference in these difficult, and in the present state of our knowledge, too often obscure and doubtful forms of most severe disease—I mean the necessity of an early or timely recourse to operation; that is, before the vital forces are so far diminished as to impede the restoration of functions after its immediate successful results, when the evidence of mechanical obstruction is sufficiently clear and strong, and a reasonable hope is afforded of liberating the intestine by the hand, or at least of forming an artificial anus at some convenient point above the impediment, when not seated too high. Purgatives taken into the stomach tend for the most part to increase spasmodic, irregular, and anti-peristaltic contractions, and to aggravate inflammation and suffering; and opium itself, though of eminent service in the earlier and later stages, and calculated in the most advanced state to allay local and general irritation, and, by controlling sickness, which at the onset is remedial, to allow nutriment to be taken into the system, and thus favour still the possibility of nature in some way overcoming obstruction, as both recoveries and dissections prove, leads in other cases to injurious and fatal delay, where it has been equally demonstrable that the surgeon might have readily removed the obstructing cause. The extent of bowel incarcerated, and its mode of compression as well as retention shewed that, in this case also, its administration at the period contemplated could not have contributed effectually to its release; and that, if gastrotomy had been thought justifiable earlier, or before the assimilative, nervous, and circulatory functions had been so greatly invaded, as subsequent events proved, life might have been preserved, whatever care would have been needed for its continuance. At the same time it is to be remembered that

a formidable remedy should be postponed or rejected so long as the hope of recovery, independently of it, predominates in the judgment of the practitioner over the dangers connected with it; and that a balance of probabilities in its favour, based on a review of all expected events on each side, together with the average results obtained from an analysis of accumulated facts, must be left to supply the grounds of future proposal.

To illustrate further the means of exact diagnosis, which alone embraces a clear solution of this and other grave problems at the bedside, in the degree to which it is attainable, or of those approaches to it which must often constitute a more rational, and as I am anxious to show, still most important object, I may observe, without entering upon the consideration of such points as are irrelevant to the lesions existing, that the emaciated aspect of the youthful patient would have induced me to suspect tubercular deposit as the cause of peritoneal adhesions entangling the gut, if points of history belonging to these conditions had not been defective, and if a ready explanation of the rapidly wasting and flabby state, to be borne in mind as distinctive more or less of perfect obstruction of the highest portions of the small intestines, had not been afforded by the great, almost total deprivation of nourishment. It is, moreover, most interesting and useful to remark, and a valuable testimony to the worth of a careful and guarded proceeding *par voie d'exclusion*, by which a double error was avoided, that both the transparent tubercular granulations and a false band discovered, were probably independent of each other, and were mutual productions of those minor disturbances of the abdomen which required a more complete history from their earliest commencement to elucidate at the time a prior and

congenital origin of an occasional interference with the transit of alimentary matter: they might thus indeed have been within range of anticipation as secondary and complicating changes, capable of increasing the fallacies and difficulties of a minute or refined diagnosis, manifestly not essential, when adequate evidence of mechanical obstruction justifies and requires an internal exploration of one or other of the sites of the abdomen most appropriate to its removal, as well as, if that be impracticable, to the artificial relief of severe and alarming distension, proceeding, in some cases demonstrably, from a particular part of the large or of the small intestines. In a paper read many years ago before the Physical Society of Guy's Hospital on the Causes of Obstinate and Insuperable Constipation, I referred, amongst other facts, to cases and dissections which pointed out the comparative facility of diagnosticating respectively idiopathic, traumatic, and tubercular inflammation of the peritoneum as primary sources of obstructed bowel: and though these, in such well-marked instances, are amongst the easiest of detection, excepting in general those scirrhous invasions of the contractile coat of the large intestine, which, when augmented to an impassable state, demand the operation of Littre or of Amussat, as particular doubts or advantages may lead the surgeon to choose the inguinal or the lumbar region, the distinction of the tubercular form has not been sufficiently insisted upon, inasmuch as it may occur, before very extensive adhesions, alterations of the form of the abdomen, enlarged deposits, and advanced constitutional symptoms render the diagnosis obvious, and the condition helpless; and, when surmises only exist, may add peculiar gravity to the questions of gastrotomy and of prognosis, if it should not, in the instance presented, be thought to invalidate

altogether the principle of operative relief, when life would otherwise be immediately endangered, and might be prolonged.

The accuracy of the diagnosis, however, regarding the seat and mechanical nature of the occlusion in the present case, though it extended not to the actual condition of all the parts (and such precise insight remains beyond attainment even after great advances in pathology), sufficed demonstrably for the practical purpose of determining the proper mode of procedure, and the absolute value of an approximate discrimination. These conclusions will be found to involve an inductive progress; and, what is yet more desirable, other facts conveyed may contribute to pave the way to definite and safe principles of therapeutical treatment, towards the establishment of which I may say generally (avoiding comments at this time on measures adapted to special processes and states of disease we must still strive to apprehend by a sound physiology and a living pathology) that external applications, and a moderate use of enemata, bland, medicated, and nutritive, should form important means; aperients should be administered by the stomach with extreme caution, and often in combination with, or after the exhibition of opiates, as the indications of the particular case may determine, without subjection to an absolute rule; galvanism may be in some cases substituted when contractile power is wanting, and chloroform be used in others for advantages distinct from the alleviation of suffering. All the circumstances narrated conspire to present an irresistible argument against the assertions of those who are disposed impatiently to undervalue the aids afforded from time to time to diagnosis, and to exaggerate despairingly the difficulties of arriving at any confident or available opinion as to whether the obstruction is at the large or small intestine,

organic or functional, by the discussion of single instead of connected features, and allusions to cases both inadequately noted, and insufficiently reflected upon, and to forms of disease collocated merely by events in common; whereas more accurate data, and a minute differential comparison would elicit distinguishing signs, and will in future, by means especially of associated and related characters studied in the mode I have exemplified, extend our power of discovering the causes of disturbance, of applying remedies scientifically suggested, and of thus accomplishing the proper and highest aim of medicine. It would be occupying too much of the Society's time, on the present occasion, to attempt, in reply to these objections, an estimate of the real import of symptoms in the recognition of various morbid states and lesions productive of intestinal delay: but the first principle to be laid down in control of all considerations which in any degree admit of speculative disputation, and abstract differences of opinion, is that of the clinical dependence of all exact, or nearly correct diagnosis, on the light reflected by the totality of phenomena displayed by the individual case regarded as a whole, or a consistent and necessary sequence of events. I am content also to leave the instructive details of the important case communicated to the rational faculty and contemplation of the profession as ultimate sources of judgment, and at all times safer guides than statistics and the calculus of probabilities to trustworthy conclusions in practice, whatever aid may be legitimately afforded by successively required and corrected deductions from well-arranged tables of collected cases, still imperfectly observed and treated, and however valuable the efforts which have of late years been made in prosecution of the numerical method applied to these researches.

39, Dorset Square.

The following description of the Symptoms, and of the Operation, and of the state of parts within the abdomen, was read by the Chairman, Mr. Hilton.

COPY OF MR. HILTON'S NOTES.

On Aug. 11th, 1853, I was called to Norwood, in the night, and found a young gentleman lying on his bed, but turning first on one side then on the other, with the thighs bent towards the abdomen, and in great distress, moaning and crying out, and begging that something might be done to relieve him of his pain. He had constant vomiting of small quantities of fluid tinged with yellow bile, and could not take a teaspoonful of fluid without its inducing urgent vomiting. There was much general collapse; the pulse was very quick and very small; the eyes were sunken; he had great facial anxiety; the hands and fingers were cold, clammy, and of a reddish colour; there was no elasticity of the skin or subjacent structures. The abdomen was flat, or rather concave, below a transverse line intersecting the umbilicus, but a little prominent above that line. There was considerable tenderness on pressure near and above the umbilicus.

Dr. Ridge detailed to me with great precision and exactness the history and succession of the patient's symptoms, suggesting, with Mr. Chapman, the propriety of performing gastrotomy immediately. This recommendation being in perfect accordance with my own experience of previously observed cases, I proceeded to make an incision in the median line about three inches long, beginning a little

above and to the left of the umbilicus, and extending it downwards. The linea alba was exposed; this was divided vertically, first close to the umbilicus, until the peritoneum was brought into view. A portion of this membrane was pinched up by the finger and thumb, and opened with a scalpel. The finger being introduced into the abdomen served as a director to complete the extension of the opening corresponding with the incision into the skin. The transverse colon, with the great omentum attached to it, were now seen. The colon at near the upper angle of the wound was small; the omentum was free from fat, and spread completely over the small intestines. Both colon and omentum were turgid with blood-vessels loaded with blood, some miliary tubercles were visible in the omentum, and similar tubercles were subsequently observed in the walls of the small intestines. On attempting to draw upwards the omentum, some resistance was felt; and I passed my finger under its left edge, and found a band or cord of membrane, about as thick as a crow's-quill extending from the omentum to the spine amongst the contracted small intestines, and fixed to the left side of the root of the mesentery. This band was divided, after some little trouble, by a sawing motion across it with the finger nail, between one and two inches from its posterior fixed point; and the other end, or that attached to the omentum, was drawn forwards and brought to the external wound. It did not bleed. As this band did not appear to girt very tightly the intestines, and as the symptoms were obviously connected with or produced by complete obstruction of some kind, I concluded it could not be the true cause of the urgent symptoms. I therefore passed my finger downwards to examine the obturator foramina; and finding them both free, I then directed my finger upwards

towards the beginning of the jejunum on the left side of the median line, and found that immediately after this portion of the small intestines becomes comparatively free from the spine, where it is continuous with the duodenum, it had passed towards the right side of the abdomen through an abnormal hole in the mesentery, in which position it was tightly retained. I withdrew this portion of intestine from its incarcerated position by steady traction upon it towards the left side of the abdomen, and brought it forwards into view. It was about six or eight inches long, distended, dark coloured, highly congested with blood, but not gangrenous. The hole through which it had passed admitted the ends of fingers easily.

Sufficient cause for the urgent symptoms having been now ascertained, and remedied as far as possible, the edges of the external wound were adapted by sutures, and a pad of lint supported by plasters across the abdomen. Scarcely any blood had been lost by the operation, and no great difficulty was experienced in this instance in keeping the intestines within the abdomen, as all the intestines below the obstruction, which was near to the stomach, were empty and contracted; but their walls were dark, and congested with blood, and, in that respect, their appearance was peculiar and unusual. I suppose this peculiarity is to be explained by the hole in the mesentery being occupied to distenson by the incarcerated intestine, and producing pressure upon the superior mesenteric vein, which traverses the root of the mesentery before going over the duodenum, close to the abnormal hole through it, and so led to congestion in the branches of the veins proceeding from the jejunum and ileum; and I may add, as the result of several *post mortem* operations, that the jejunum quits the duodenum

on the left side of the spine about one inch and a half above, and to the left side of, the umbilicus of an ordinary sized abdomen.

10 New Broad Street.

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