LECTURES

ON THE

PRINCIPLES OF SURGICAL DIAGNOSIS:

ESPECIALLY IN RELATION TO SHOCK AND
VISCERAL LESIONS.*Delivered at the Royal College of Surgeons of England.*

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LECTURE VI.—LESIONS OF ABDOMEN (CONTINUED).

Intestinal Obstruction from Various Causes.—Internal and External Strangulation: Symptoms and Signs.—General Observations on Hernial and other Obstructions.—Fatality of Operations for Hernia, and its Causes; Practical Conclusions.—Foreign Bodies in the Stomach and Intestines.

LESIONS OF THE PELVIC VISCERA.

Fractures of the Pelvis and their Complications.—Rupture of Bladder; Is it always Fatal? Effects: considerations suggested thereby.—Rupture or Laceration of Urethra: Causes and Symptoms.—Traumatic Lesions of Rectum.—Shock in Pelvic Injuries, and in Certain Morbid Conditions of the Uterus.—Recapitulation.—Indications Premonitory of Dissolution or Convalescence.—Conclusion.

MR. PRESIDENT AND GENTLEMEN,—It would be difficult to meet with a more apt illustration of the remark with which I commenced this course of Lectures than in the subject of intestinal obstructions. The essential conditions under which such obstruction from strangulation occurs, whether internal or external, may be identical, yet one class of cases is assigned to the physician and the other to the surgeon. But the diagnosis of these conditions in the two classes is by no means equally simple; and the surgeon has the advantage in the presence of tangible and visible signs, which rarely admit any equivocal interpretation. So obscure, indeed, are the symptoms, in many instances, by which internal strangulation can be recognised, so as to identify either its locality or its proximate cause, that it has been the effort of the physician to place himself, as nearly as possible, on a par with the surgeon, by exploring the abdomen, in the hope of obtaining the aid of physical signs to guide him in his diagnosis. And I cannot pass by this remark without a tribute to the memory of my late colleague, Dr. Brinton, whose sagacity and philosophical acumen in the investigation of this obscure but interesting subject, have an appropriate and enduring record in his admirable posthumous work on *Intestinal Obstruction*.

The indications by which obstruction in the bowels is recognised, whatever its source or position, may be classified under two heads, viz.: general and local; and it is upon the combined presence of both that the surgeon founds his diagnosis of strangulated hernial protrusions. It is for this reason, and because such general symptoms and local signs rarely co-exist under other circumstances, that the diagnosis of strangulated rupture is usually so simple, as to leave the surgeon without excuse for overlooking its presence and neglecting the appropriate treatment. But, *separately*, the local signs and general symptoms are inconclusive. The presence of a tender swelling in the groin is suggestive of various conditions which have nothing in common with rupture, such as inflamed glands, abscess, malignant tumour, undescended testicle; and many circumstances may, either separately or in combination, produce constipation and persistent vomiting, besides the strangulation of an external hernia; such as intus-susception, internal strangulation, a malignant tumour, stricture, impacted feces, and other causes: but the presence of a tender swelling in the groin, accompanied by the characteristic pain and sense of constriction across the epigastric or umbilical region, together with constipation, vomiting, and the history of a hernial descent, may be regarded as conclusive. It is true that there may be many disturbing causes in operation which modify the symptoms or complicate the diagnosis. Even simple inflammatory swellings may be attended by constitutional symptoms somewhat resembling those which characterise rupture; but such coincidence is accidental: or perplexity may arise from the concurrence of internal strangulation with an irreducible hernia: and occasionally the local signs are inconsistent in character and intensity with the general symptoms; as where a mass of omentum

is the solitary occupant of the sac; and still more so in the not infrequent complication of the presence of a small recent intestinal protrusion behind an old and irreducible omental rupture.

The symptoms which characterise internal strangulation and recent hernia are very closely allied, and for the obvious reason that these conditions are in all essentials identical, differing only in the accidental circumstance of locality. Some of these symptoms are due to the compression to which the bowel is subjected, and these are the earlier and more acute; such as pain, which is both topical and more or less general over the abdomen, and often assumes the character just now referred to, of a sense of painful dragging and constriction across the umbilical region; rejection of the contents of the stomach, excited immediately anything is swallowed; tenderness in the swelling if external, or at some particular spot if internal. Small recent hernie are most liable to strangulation; and in such cases the strangulation is usually most acute: but the topical signs are much modified in old ruptures; for the accustomed descent of a hernia renders it less susceptible of pain, and may lead to its being overlooked even when the general symptoms have declared themselves. Indeed, when acute local indications usher in strangulation in an old hernia, the explanation is probably to be found in the accidental addition of a small knuckle of intestine to the ordinary omental contents of the sac,—a form of rupture which, as I have already remarked, is frequent, especially where the omentum is adherent and therefore irreducible. I would observe that this occurrence may mislead the inexperienced operator; for the intestinal addition is often very small and entirely hidden, until sought for; and its return, during or immediately prior to an operation, accounts, as I believe, for the apparent anomaly which I have met with, of symptoms of acute strangulation coincident with the presence of unconstricted omentum only in a sac.

At a later period the character of the vomit becomes altered, as the point of departure of the reflected stream recedes from the stomach. But this feature—fecal discharge by the mouth—characterises a stage distinct from that in which the mechanical irritation of constriction is the cause of sickness: the regurgitant vomit is the consequence, as already explained, of obstruction and accumulation in the intestine; and the rapid development of this sign is, to a certain extent, a measure of the distance from the stomach of the seat of strangulation.

The prostration which marks the latter state of strangulation is very variable as to its period of access; the chief conditions influencing it being the position and tightness of the constriction, the treatment of the patient, and his general power. The pinched and anxious countenance, the parched tongue and hiccough, are added to the usual symptoms of earlier collapse: in fact, the state of the sufferer is identical with that which accompanies gangrene, though the actual annihilation of vitality in the strangulated bowel have not taken place. And this period brings relief to the patient, both as regards the acuteness of his suffering and the continuance of vomiting: but the apparent amendment is fallacious, and is in fact the harbinger of death.

General peritonitis is not usual in internal strangulation or in hernia: and the pain and tenderness which attend these lesions is due to this cause only in exceptional instances. Death usually results from prostration, consequent on the shock of a persistent violence done to the bowel, aggravated by the depressing influence of constant vomiting and inanition. Perforation of the bowel and extravasation of its contents are followed by collapse, and, if the patient survive sufficiently long, by peritonitis, as in rupture from violence.

It is well known that the late Dr. Brinton opposed the previously received hypothesis that intestinal regurgitation is dependent on anti-peristalsis, and substituted his own theory, that those particles of the liquid contents of the bowel "which are in contact with the inner surface of the tube, are propelled onwards by the muscular contraction of its wall. And this propulsion is necessarily accompanied by a backward current in those particles which occupy the axis or centre of the canal". I believe this explanation to be correct in most instances; but I doubt its accuracy in all. For, unquestionably, regurgitant vomiting does occur sometimes when there is no obstruction to account for the mechanism of Dr. Brinton's explanation. But, whatever the cause of such regurgitant action may be, there can be no doubt that, combined with constipation, this sign is of great value, especially when the period of its occurrence is considered in relation to the question of time as applied to other symptoms, and also to the topical evidence afforded by distension, tympanitic resonance or dullness, and similar physical signs. Thus, fecal vomiting occurs, for an obvious reason, at an earlier period in obstruction of the small intestine than of the large; and the delay is protracted beyond what the larger interval of space would account for, by the necessity, as pointed out by Dr. Brinton, that an extreme degree of distension of the lower end of the ileum must exist before the ileo-cæcal valve can be thrown open.

The course and progress of the symptoms marking the *fatal* tendency

of insuperable obstruction, vary very much in different cases; and, other things being equal, the rapidity with which the more acute symptoms merge in collapse is a measure of the rigidity and tightness of the strangulation, whether external or internal. The first sign of *pain* may be an index of the probable course the attack will take. If sudden and intense, the strangulation is correspondingly acute; and this characteristic is more often found in recent and small herniæ;—a class of cases, therefore, demanding the speediest relief by operation. Yet, the kind of pain of which I am speaking is also present in sudden extravasation of the contents of the bowel from ulceration; and I have met with cases in which it was impossible, at an early period, to assign the agonising suffering to its true source. But the collapse is earlier in ruptured bowel; and the pain is more continuous, and not of that paroxysmal type which accompanies obstruction, and is synchronous, in its periods of access, with the peristaltic movement of the intestine, which may be noticed even externally.

The seat of internal strangulation may be often conjectured,—in some instances identified,—by the physical signs of *distension*, *dulness* on percussion, and the visible and tangible *movements* of the bowel. But these signs are more valuable in their bearing upon the large than upon the small intestine; for the tympanitic distension of the colon may define the actual locality of the obstruction.

It is with obstruction of the small intestine that the surgeon usually has to deal; and in these cases indications of strangulation are generally more acute and earlier in reaching their culmination: the pain is more intense, the vomiting earlier; and there is a peculiar sense of distressing constriction across the umbilicus; whereas, in colic obstruction, the seat of suffering is often localised in the right iliac fossa.

In diagnosing the seat of obstruction, some importance has been attached to the quantity of *urine* secreted, which is usually less in proportion to the proximity of the seat of strangulation to the stomach; and under these circumstances it is assumed that the intestine itself pours out fluid more abundantly. The many exceptions to this rule in great measure negative its diagnostic value; though unquestionably there is, as might be expected, a relation between the quantity of urine secreted and the amount of watery vomit, which I have known to be, in some instances, almost incredibly abundant.

Irremediable *paralysis* precedes gangrene, and is often, by itself, a cause of fatality, even when relief has been afforded by operation. Indeed, every practical surgeon knows that it is one of the chief difficulties with which he has to contend after liberating the strictured gut; and it is a condition which tests his forbearance in the after-treatment of his cases. This consideration is one which should exercise its influence in determining him not to delay affording relief by operation when his decision is required. A rapidly distended bowel is most obnoxious to paralysis; and I believe that paralysis with its usual concomitant, distension, is a ripe source of fatality in strangulated intestine.

The question of surgical interference in internal strangulation is necessarily influenced importantly, if not entirely ruled, by the special diagnosis. The performance of a serious operation, in itself threatening to life, has its only justification in the more menacing character of the disease for the relief of which it is undertaken: and in internal strangulation it is very difficult to decide on the chances of spontaneous relief, even when the diagnosis as to the nature and seat of the constriction is determined. These two circumstances constitute, in fact, the bar to operating, as a rule, in these cases: viz., the obstacles to forming a correct diagnosis; and the uncertainty which invests the prospects of the patient, even when the nature of his malady is ascertained. An early operation is not justifiable; a late one is useless: and under either condition the operator may fail in accomplishing his purpose. These considerations govern the decision of surgeons in the majority of such cases: and my own conviction is, that abstinence from interference, as a general if not universal rule, is judicious: for, judging by the *post mortem* examinations which I have made and witnessed in cases of internal strangulation, or of sudden obstruction from other causes, I should say that a large majority would have been irremediable, even had gastrotomy been performed: either the seat of the constriction was inaccessible, or its consequences were beyond repair.

A few remarks more especially applicable, severally and in succession, to Intestinal Obstruction and to Hernia, must close the present brief allusion to this extended subject.

In forming a diagnosis of the site of intestinal obstruction, from whatever cause, its position, if low down, may be indicated by the quantity of fluid which the bowel will receive, or even by the length of tube which may be passed into it: but I cannot say that confident reliance can be placed on these guides, which may be rendered deceptive by the presence of accumulated feces in the bowel, and from other causes. It is certainly only in obstruction of the large intestine that complete constipation is prolonged, sometimes through many weeks;—

the distension becoming very great, and not infrequently accompanied with peristaltic activity in the small intestine, in its fruitless effort to pass onward its contents. In obstruction of the smaller bowel, from whatever cause, the symptoms are more acute, and the cases are more rapidly fatal.

I just now remarked that regurgitant intestinal vomit is not necessarily dependent on positive obstruction: the arrested peristalsis may be negative or passive. Thus, after relief of strangulation by operation, stercoraceous vomiting may continue for a time, and yet the patient may recover. The following is a typical instance of this condition. A middle-aged female was admitted under my care with acutely strangulated crural hernia; the intestine was deeply congested and of dark port-wine colour. On the fourth day after the operation the belly was tumid and tympanitic; the colon could be traced, and the vomit was stercoraceous. Prolonged friction over the abdomen and an injection were employed, after which the bowels were relieved, and she recovered. This condition was, doubtless, due to the persistent paralysis of the intestine, which is, in many instances, irrecoverable, and the cause of death. I have seen this state induced, apparently, by cold, exhaustion, or suppressed secretion, and characterised by gaseous distension and offensive vomit. Such instances of persistent constipation, with vomiting, I have examined *post mortem*, without discovering mechanical obstruction from any cause: in other similar cases relief has been obtained, without any evidence, so far as could be gathered from the character of the dejecta, that fecal accumulation had caused the obstruction. This paralysed condition of the bowel is not infrequently relieved by long-continued friction, castor-oil being employed as the medium of its more effectual employment.

A condition of partial obstruction from stricture may become complete, in consequence of the contracted canal becoming accidentally plugged by some part of its contents. The suddenness of the attack may induce the belief that internal strangulation is the cause of the constipation; especially as aperients merely aggravate the symptoms, without affording any relief, whereas the lower bowel may be unloaded by an injection. Two cases of this class have come under my notice and partial care. In one, that of a middle-aged female, there was complete constipation for a fortnight before death, with the exception of an evacuation which was obtained by injection. The iliac regions were tumid and hard; perspiration was abundant; urine high-coloured; constant stercoraceous vomiting for the last twenty-four hours. The small intestines were found to be much distended with gas and fluid feces: the same condition prevailed in the large intestine, as far as the junction of the transverse and descending colon, at which spot a large ulcer involved the whole calibre of the bowel; and the part was so contracted that an orange-pip, which plugged the orifice, could not pass. In the other instance, occurring also in a female of middle age, the previous health had been good, and no suspicion of disease existed until within less than a month prior to death. Obstinate constipation was present, although an injection brought away feculent matter: all ingesta were returned, and the vomit occasionally had a stercoraceous character: the abdomen was tumid and tympanitic, but not tender; and much rumbling with violent pain came on in paroxysms. A long tube was passed without assisting the diagnosis: the patient died exhausted. The autopsy betrayed evidence of commencing peritonitis. The whole alimentary canal was greatly distended, as low as the termination of the sigmoid flexure of the colon: here, close to the upper part of the rectum, was a contraction which would not permit fluid to pass downwards: but when water was poured in below, a dark shrivelled body was washed out, resembling a raisin. In neither of the above cases was the acute suffering of internal strangulation present: but in many respects the symptoms were so nearly allied to this condition as to bring under discussion the propriety of gastrotomy; which, however, I discountenanced in both.

It is scarcely necessary to remark that, in such cases as the above, and in others in which obstruction is consequent on various causes, the evacuation obtained by injection is due entirely to the clearing of the lower bowel; and is not to be accepted as any indication that the obstacle to peristalsis, whatever that may be, has been removed. The favourable signs on which dependence may be placed are, ability to discharge foetid gas from the bowel; subsidence of sickness and abdominal tension; the varying position of any localised fulness, hardness, or resistance; the diminishing intensity and shifting site of the pain; and cleaning tongue: some, or even all, of these symptoms may be present, before any solid relief from the bowels is obtained.

Obstructions in the rectum are rare, except from the presence of accumulated and indurated feces; i.e., apart from the constrictions which constitute genuine stricture;—a form of disease which, I may remark, is often spoken of as more common than, so far as my observation has enabled me to judge, it really is. My experience relative to

the presence of foreign bodies in the rectum is in accordance with that of our President, who remarks that he has been rarely called upon to interfere in such cases: but I have met with some remarkable instances of protracted constipation, dependent, apparently exclusively, upon the accumulation of hardened feces in the rectum, giving rise to distressing symptoms, resulting from enormous distension of the abdomen. The longest period of constipation that I have relieved by breaking down the solid hindrance, is six weeks; the belly of the patient, a young man, being larger than that of a pregnant female at her full time. Complete relief speedily followed the removal of the induration by manual disintegration and repeated injection. I may add that, in one case of imperforate anus on which I operated a long time since, this process was required periodically for many years, in consequence of the constant tendency to fecal accumulation in the *cul-de-sac* in which the rectum terminated at some considerable distance from the manufactured anus; the communication between the two being by the intervention of a canal which it was difficult to keep open. The diagnosis of this form of obstruction is usually simple, if the obvious precaution of making an examination *per anum* be not overlooked or neglected.

Many sources of obscurity may invest the diagnosis of strangulated hernial tumours; though, as I have remarked, the existence of symptoms of constriction, combined with the external presence of a tender swelling where a hernia usually occurs, rarely leaves the nature of the malady in doubt. A hernia may be rendered irreducible by its size or distension, or by adhesions, or by the presence of thickened omentum, without strangulation: or symptoms of constriction may exist for a time, as I have already noticed, and disappear without apparent change in the physical characters of the tumour, in consequence of the temporary descent of a small knuckle of intestine. I have also found such supplementary rupture contained in a perfectly distinct sac.

Various complications which are, however, comparatively rare, may perplex the operator; but, with well-pronounced symptoms of strangulation, he should not be deterred from pursuing his exploration, until perfectly satisfied that there is no strangulated rupture within his reach. The size of a hernial protrusion cannot always be measured by the magnitude of the tumour, which may be augmented, in the crural variety, by the presence of enlarged glands, or by thickened and infiltrated tissues, or by an accumulation of fluid in the sac. The history of a hernial descent may likewise mislead the surgeon, if he expect that violence is an essential element in its production. I have known acute strangulation in a recent rupture succeed an apparently trivial exciting cause, such as the act of rising in bed. But in such instances the force applied acts at great advantage directly upon the abdominal contents.

The impulse on coughing, said to be propagated to a strangulated rupture, is sometimes spoken of as the means of distinguishing an inguinal from a femoral hernia: but the fact is that, in such constriction as produces symptoms of strangulation, no such impulse is communicated to the contents of the sac: the position of the neck of the sac is the chief reliable guide. The exact seat of stricture is not an important point to be ascertained before operating; and in most instances it is conjectural, if any deviation from the normal or ordinary disposition exist.

Sometimes a hernial descent may take an unusual course, as where an inguinal rupture spreads itself between the layers of the oblique muscles. I remember being consulted in an instance of this embarrassment, occurring in a young man, in which the form, position, and other local signs were very suggestive of a diffused parietal abscess: but the history and general symptoms left no doubt on my mind that the tumour was hernial, and I advised an immediate operation. The protruded bowel was spread out beneath the aponeurosis of the external oblique muscle; and its congenital form and sudden descent accounted for this peculiarity.

Even in the after-treatment of hernial operations the symptoms may suggest to the surgeon that he has overlooked some strangulated bowel; whereas, the explanation may be the formation of an abscess in near relation to the seat of operation, especially if a conduit for drainage have been neglected, by attempting primary union of the entire length of the wound. But these complications and sources of perplexity are too numerous to admit of further illustration, or, indeed, of more than a cursory notice.

Any part of the movable contents of the abdomen may be found in a hernial sac. I operated on one case in which the cæcum, with its vermiform appendix, was so placed. The stomach, and even the distended fundus of the bladder, have been found occupying a hernial sac: but the special symptoms by which such rare occurrences may be identified are not clearly defined; nor, indeed, is it of any importance that they should be.

Age is no bar to this accidental strangulation of a rupture, nor to its successful relief. The oldest patient on whom I have operated was a

lady of eighty-four: the youngest a male infant of eleven months. In both instances the usual symptoms were strongly pronounced, and the stricture was very firm: in each the patient made a good recovery.

In association with this subject I may call attention to the fatality, and its causes, in operations for hernia.

1. In reviewing my hospital experience, extending now over more than a quarter of a century, I cannot recall any instance where I have operated, in which I could reasonably attribute a fatal result to the operation, although my habit is, with rare exceptions, to open the sac.

2. I have never had occasion to regret operating too soon; but very often to deplore that the opportunity has not been afforded to me of operating earlier. In all doubtful cases the patient should have the advantage of an exploratory operation.

3. Acute general peritonitis is rarely the cause of death: but patients die most often exhausted, and without rallying from the intestinal paralysis and prostration induced by the antecedent strangulation and vomiting: or the contents of the sac may slough.

4. Such antecedent condition is not to be measured, as regards its intensity, by time: in many instances, a hernial descent of a few hours' duration may be so tightly constricted as to entail an irrecoverable condition of the bowel: whereas, in others, the persistence of strangulation, in a minor degree, for two or three days, may not seriously imperil the vitality of the intestine.

5. Inflamed and sloughing omentum may cause death, whilst the bowel remains pervious.

6. The most serious complications are entailed by rough and unskilled employment of taxis:—consequences which not only directly aggravate the risk to the patient, but likewise enhance the difficulties attending careful and well-directed efforts to afford relief. That hernia is a ripe cause of death, is attested by the Registrar-General's Report; for he assigns to this cause an average death-rate of eight hundred annually.

The conclusion which I draw from these facts is, that delayed operation is the most prolific cause of fatality in strangulated rupture; and that the operation itself, including opening the sac, is not, when necessary, a dangerous proceeding. On these grounds I cannot refrain from insisting on the importance of early operative interference in strangulated hernia; and from expressing my conviction that the danger attending the exposure of the interior of a hernial sac and its contents is, in great measure, imaginary. When the constriction is sufficiently firm to necessitate operation, there is, in my opinion, no increased risk in opening the sac, unless, indeed, the descent be very recent, and the stricture can be easily and securely divided externally. But I am persuaded that, in many instances, the peril of the patient is seriously augmented by refraining from so doing: for the surgeon remains in ignorance of the actual condition of the contents of the sac; and the products of congestion and inflammation are shut up within the peritoneum, and left to work their deleterious influence on this susceptible serous cavity.

Although the recorded cases of foreign bodies being introduced by the mouth, and lodged in some part of the alimentary canal, are remarkable for their variety and extraordinary nature, their comparative rarity affords but scanty opportunity to individual surgeons to add importantly to the list, or to our acquaintance with the indications by which a correct diagnosis may be formed.

When foreign bodies, thus introduced into the mouth, are arrested within reach of the finger, or are within sight, as in some instances which I related in my last lecture, or when pins or fish-bones stick in the fauces or gullet, the proper course for the surgeon to adopt is at once indicated. Respecting the minor form of injury here alluded to, I may repeat that the sensation produced by the presence of a pin or a fish-bone in the throat often long survives its removal; and the representations of the patient may thus mislead the surgeon.

Many solid and indigestible objects pass the alimentary canal, producing but trifling and temporary inconvenience, or no inconvenience at all, such as the stones of fruit, or even coins. But pointed bodies, such as pins and needles, often create prolonged suffering before they are discharged. The irritation which they produce may occur at any part of the canal through which they pass, from the pharynx, where they are sometimes arrested, to the rectum, from which they have been occasionally removed. Whilst I write, I have a young woman under my care, in whose œsophagus the presence of a pin has created the most distressing irritation; and dysphagia, accompanied with profuse expectoration and constitutional disturbance, are apparently in part dependent on this cause.

In the intervening space, the stomach or some part of the bowel is frequently transfixed by these delicate bodies, which thence find their way to the cutaneous surface, and are discharged. The effects produced by this spontaneous perforation are very various, according to

the accounts of different observers: sometimes they pass through the entire course of the bowel, as I have known, without producing any irritation; at other times they give rise, especially when they are numerous, to extreme pain, coinciding apparently with the period of their perforation of the stomach or intestine, and occasionally causing death by inflammation of the peritonæum or by being retained. In most cases where we are called upon to remove pins or needles from beneath the skin, there is a distinct history of their piercing the surface, though it may be at a distance from the spot where they present themselves; but occasionally the absence of such history and other circumstances point to the conclusion that they were most likely swallowed unconsciously with the food. A little girl was brought to me last year, whose parents had noticed a conical prominence in the left hypochondrium, for which they could not account. Feeling persuaded that it was a foreign body, I divided the skin, and removed a needle. I infer that this was probably swallowed, from the position at which it presented itself; and, as the child was well cared for, being the daughter of affluent parents, the fact of its introduction through the skin would probably not have been overlooked. In a youth who was admitted into the hospital with injury to the spine, of which he died, a blackened pin was found imbedded in the left lung, lying lengthwise close to the anterior edge. There was no trace of aperture of entrance, and it was adherent to the lung-tissue. This might also have perforated the stomach, and found its way through the diaphragm to the lung. A pin, with its head on, is not readily driven through the skin.

Larger objects, such as knives, forks, or spoons, have passed through the entire length of the alimentary canal without destroying life, but necessarily producing more or less severe suffering, especially if the body be pointed. We have on the table some specimens from our museum belonging to this class, but in which the patients were not so fortunate. This (1140) is a knife, or rather the remnant of one, taken from the stomach of a man who had swallowed it some months previously. The handle is dissolved—in fact, digested; and the blade has been partly destroyed by oxidation. Again, here (1184) is a dessert-spoon, which had been swallowed by a lunatic, and, after traversing the small intestine, finally lodged in the cæcum. This patient also survived his feat for a considerable time, I think some months.

In other instances, such objects have caused death by perforation—sometimes early, sometimes late—and consequently fatal inflammation. Occasionally they are felt through the abdominal parietes, and, under these circumstances, have been extracted by incision, or after spontaneous ulceration of the superficial textures. If retained, deteriorated health results from the constant irritation and functional disturbance of the organs of digestion, caused by the presence of the foreign bodies; and, if fatal inflammation do not ensue, the patient sinks exhausted.

When I was, on a certain occasion, dining with a party of medical gentlemen in the country, the following professional anecdote was told and authenticated by one of them. At a convivial meeting, an individual present undertook not only to drain his glass, but likewise to eat it. He accordingly proceeded deliberately to masticate and swallow it. The consequences were much suffering and constipation, which nothing relieved; and he was sinking into a state of exhaustion. Being a keen sportsman, the ruling passion, strong in death, prompted him to express a desire once more to be raised from his bed, dressed, and lifted on to his horse; and he insisted upon this apparently hazardous whim being gratified. The jolting motion, however, to which he was subjected, was the means of saving his life. The obstructing mass shifted its position, and was soon afterwards discharged, to his permanent relief. There is nothing improbable in this account, and the above is not the only instance in which this absurd eccentricity of glass-eating has been enacted with impunity.

When local abscess results from the entanglement and retention of any small body within the intestine, the issue of the case depends upon the position of such abscess. The lower part of the rectum is the most frequent seat of local inflammation arising in this way, and terminating in suppuration; and probably the occurrence of abscess, succeeded by fistula, is more often attributable to this cause than is apparent, in consequence of the material source of irritation escaping, and thus eluding observation. In one instance, I remember discovering quite a nest of orange-pips in a rectal abscess; and was enabled, after laying it freely open, to trace the aperture by which they had escaped from the bowel; one of the seeds occupying, at the time, the ulcerated opening.

Another not infrequent seat of abscess, from the lodgment of small foreign bodies, is the vermiform appendix of the cæcum; and these cases are usually fatal. The diagnostic signs of such an accident are by no means clearly defined. The peritonitis is generally limited, at an early period, to the neighbourhood of the seat of mischief, the right iliac fossa; but may afterwards extend. In most other respects, the

symptoms are similar to those which indicate strangulation of the bowel in some part of its course. The early localisation of pain in the region of the cæcum, the history of the attack, and the absence of an external hernia, would suggest the mischief referred to, but only in common with other internal sources of inflammation, especially where constipation is present. The size of the large intestine, when healthy, usually permits the ready passage of objects which have passed the portal of the ilio-cæcal valve.

An interesting case is recorded by our President, Mr. Quain, in which hæmorrhage into the abdominal cavity was the cause of death. On examination, *post mortem*, it was found that the blood was derived from the common iliac artery, which had been perforated by a pin, which lay in a small abscess communicating with the vermiform appendix. (*Diseases of the Rectum*, p. 326.)

The conclusions, as regards diagnosis, to be drawn from a record of cases belonging to the general category under consideration are, unfortunately, not very satisfactory. In a collection of such instances in the *Guy's Hospital Reports*, accumulated by Mr. Poland with his usual indefatigable industry, this able surgeon speaks of the symptoms, induced by the presence of foreign bodies in the alimentary canal, as vague and uncertain, and as affording no satisfactory clue to their situation, nor even reliable proof that the patient's narration of his case can be depended on. The symptoms may, in fact, partake of all the characters which appertain to simple inflammation of any part of the canal, resulting from any other cause: and this may terminate in perforation, collapse, and death. Or, again, the foreign body may become impacted in the intestine, and cause permanent obstruction which, in the resulting symptoms, is undistinguishable from obstruction by internal strangulation, or consequent on other causes, such as internal concretions or morbid growths.

One physical sign is mentioned by observers, which I have not had the opportunity of witnessing; it is that, when the object swallowed is partially or entirely composed of iron, the excreta are coloured by the admixture of ferruginous matter. No doubt this is a valuable corroborative evidence of the correctness of a diagnosis founded upon the representation of the patient, and the concurrent existence of other signs and symptoms of the presence of a foreign body in the stomach or bowels. That metal will waste by oxidation, as well as digestible material disappear by solution, we have demonstrative proof in the preparation before me, to which I just now directed attention.

[To be concluded.]

CLINICAL MEMORANDA.

[Under this head, we shall publish from time to time, as materials accumulate, short records of remarkable cases in practice which are sufficiently rare, interesting, or instructive, to deserve record, but do not call for lengthened statement or comment. Brevity and point should be the valuable characteristics of cases forwarded for this column.]

TOXIC ACTION OF QUININE.

By EDWARD GARRAWAY, Esq., Faversham.

I WAS called last month to a lady, aged 40, in previous good health, who had been suddenly seized with oedema of the face and limbs, accompanied by an unusual erythematous rash. She had considerable uneasiness in the præcordia, and was in a state of great alarm. Certainly there was sufficient cause, for she was greatly disfigured, and her arms felt ready to burst. Her idea was, that she had been poisoned by a white powder, which she had procured at a chemist's, in mistake for quinine, and of which about a grain had been taken in a glass of wine. I taxed her with having eaten fungi, shell-fish, decomposing cheese, and other unwonted articles of food, but she pleaded guilty to none of these things. On bringing me the remains of the white powder, it proved to be pure sulphate of quinine. I repudiated the idea of this having done her any harm. After three or four days, the oedema and the rash subsided, but the skin of the face scaled off, and there was peeling of the hands and feet, as after scarlatina. My patient remaining somewhat enfeebled, I, unreflectingly, ordered a quinine mixture, by way of tonic. Two hours after taking the first dose—two grains—she sent for me, exclaiming, "Oh, you have poisoned me with quinine again". To my infinite chagrin and mortification, all the former symptoms recurred.

I doubt if I have omitted prescribing quinine any day for the last twenty years—in this locality it is largely needed—and this is the first instance in which I ever recognised any ill effect, beyond headache, resulting from its administration.