

A case of wound with protrusion of the stomach / by Benjamin Travers.

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Wound of the Stomach
Thompson's Lect. 12

b A Case of Wound with Protrusion of the Stomach. By BENJAMIN TRAVERS, F. R. S. Surgeon to St Thomas's Hospital, and Honorary Member of the Royal Medical Society of Edinburgh.

Communicated to one of the Editors of the Edinburgh Journal of Medical Science.

DEAR SIR,

I TRANSMIT you a case, which appears to me worthy to be recorded, of wound with protrusion of the stomach, for insertion in the first number of the Edinburgh Journal of Medical Science. To this communication I have added a few references to wounds and apertures of this viscus, under the several forms in which they occur, with such cursory observations as the subject suggested. Accept my best wishes for the prosperity of your undertaking, and believe me,

Yours, with much respect,

BENJ. TRAVERS.

Bruce

BOSTON STREET, BERKLEY SQUARE, }
December 7. 1825. }

MARY GEORGE, aged 53, of delicate habit of body, and mother of nineteen children, at noon, on Thursday the 18th of October 1819, in a fit of despondency, inflicted upon herself, with a razor, a transverse wound, dividing the parietes of the abdomen, to the extent of three inches, a little below the umbilicus, in a line inclining obliquely downwards from left to right. There were also two superficial wounds a little below the former.

On her admission into St Thomas's Hospital, about half past six o'clock of the same day, the greater part of the large curvature of the stomach, the arch of the colon, and the entire large omentum, were protruded and strangulated at the wound. Upon further examination, the omentum was discovered to be detached from the stomach to a considerable extent; and two wounds appeared on this viscus, the one a peritoneal graze, about half an inch in length, the other a perforation of its coats, admitting the head of a large probe. A considerable quantity of mucus was observed to issue from this opening.

At the time of her admission she was exceedingly faint and exhausted, having lain concealed near six hours before her deplorable situation was discovered by her family. Pulse 102, and irregular, countenance pale and dejected, surface of the body moderately warm, little pain in the abdomen, diaphragm irri-

table, having a disposition to, rather than actual hiccup, but no vomiting. The interstice of separation between the omentum and the stomach was filled by coagula, but it did not appear that she had lost much blood. A small portion of the coats of the stomach including the wound was nipped up with a pair of forceps, a silk ligature tied around it, and, after a vertical dilatation of the wound, the protruded viscera with considerable difficulty returned into the cavity of the abdomen; the parietal wound was closed by the quill suture; warm fomentations were applied to the abdomen, and the patient ordered to be kept strictly quiet, and without either food or drink. During the reduction of the protruded viscera, she suffered excruciating pain, and from the spasmodic action of the diaphragm considerable resistance was offered to their return, notwithstanding the entire relaxation of the abdominal muscles.

19th, 8 A. M.—Vomited twice during the night and had slight hiccup. Slept a good deal, and, upon the whole, passed a good night. Contrary to order the nurse had given the patient tea twice, which appears to have been the cause of the vomiting, for she ejected it both times. In reply to questions, expresses herself comfortable and free from pain. Pulse 120, full and soft, tongue white and moist, skin warm, countenance not so pale as last evening, and less anxious. Upon pressure, feels considerable pain in the abdomen, which has but little tension; has had no motion, but voided a good deal of high coloured urine. Ordered an injection of salt and gruel.

8 o'clock P. M.—Has vomited twice, the quantity small, hiccup continues. Pulse same in frequency, but rather more contracted and hard; in other respects about the same as in the morning. Has taken no nourishment. The injection gave a great deal of pain, and did not operate. To take three drachms of castor oil, and twenty leeches to be applied to the abdomen.

20th, 8 o'clock A. M.—Passed a restless night, slept but little; vomited once; no hiccup; pain and tension much increased. Pulse 106 and hard, tongue dry and rather brown, skin hot and dry; complains of much thirst and no appetite; has had no stools, and had taken no food.

2 o'clock P. M.—A considerable exacerbation of the symptoms recorded in the morning, together with violent pain in the head and sickness. Eighteen ounces of blood to be taken from the arm. Sulph. magn. ζ i. in the effervescing saline draught to be taken every hour, and twenty leeches to be applied to the abdomen.

10 o'clock.—Is now considerably relieved from pain and fever; the pulse reduced to 100, and not so hard or contracted; retains the medicine, but it has not operated; blood a little buffy, but not cupped.

21st, 10 o'clock A. M.—Continued restless through the night and till toward morning; is now much easier and disposed to sleep; has had two dark coloured offensive motions. Pulse 98, full and soft; tongue rather brown but moist; skin dry and warm; considerable tension of the abdomen. Took a little bread and milk for breakfast.

10 o'clock P. M.—Continues better; has had three stools during the day. Pulse 98.

22^d.—Had a good night, and is considerably better. To continue the salts in mint water, and to confine her regimen to beef tea and gruel.

Evening.—Continues relieved. Pulse 96, and full; bowels freely open, and motions healthy.

23^d.—Was disturbed in the night with spasms of the abdominal muscles, but was soon relieved by the application of warm fomentations; in other respects about the same as last night. Removed the sutures, and the wound appears united by adhesion, saving at its right extremity, where there is a small aperture from which a serous fluid escapes in considerable quantity. Straps of adhesive plaster applied. Medicine and diet continued.

24th.—Slept nearly the whole of the night, and feels so well to day that she thinks she shall recover; is anxious for food, eats it with appetite, and retains it without inconvenience. The action of the bowels is regular, and the motions continue healthy. Pulse about 94, and soft; tongue moist; skin cool; no headach. Wound dressed and looks healthy. To continue the same diet, and to take the solutio sulph. magn. occasionally.

25th.—Passed a good night; but there is a little exacerbation to day. Pulse 108, but soft; appetite continues good, and the bowels regular. On removing the dressings a considerable quantity of pus and serum escaped from the unhealed angle of the wound.

29th.—Has continued to improve daily since the last report; sat up twice in the bed for a short time together; serum no longer flows from the wound, which is now nearly healed, and discharges a small quantity of healthy pus.

The patient continued doing well till Friday, November the 3^d, when she was suddenly attacked with rigors, and symptoms of peritoneal inflammation followed. She was soon relieved by the application of sixteen leeches to the abdomen, and a free evacuation of the bowels, by a dose of castor oil. On the Monday following she was pronounced convalescent; on the subsequent Friday the wound was found perfectly united; on the Tuesday in the next week she got out of bed, and continued to do so, and to walk about the ward every day, till the 23^d of December; on which day she was discharged from the house quite well. The ligature of the stomach was not observed in the evacuations.

I shall now shortly enumerate the various circumstances under which apertures of the stomach are produced.

SIMPLE LESIONS OF THE STOMACH, THE PARIETES ABDOMINIS REMAINING ENTIRE.

1. *From rupture by strain or concussion.*—This injury is in my experience very rare; whereas rupture of the intestine, especially the small intestine, from force applied to the abdominal walls, is by no means uncommon. The stomach, owing to its situation, is so well protected from obtuse or nonpenetrating blows by the elasticity of the false ribs, and the concavity of the diaphragm increased to the utmost, ~~also~~ by the constriction or forcible compression of the abdomen, that its distension from food and the fixed state of the diaphragm, as in forced inspiration, seem to be necessary concurrences in the production of this species of injury. A heavy blow received in the act of self defence, or a strained incurvation of the body backwards after a full meal, may cause a rupture of the stomach. Several years ago a tumbling boy in Southwark, who had just been regaling on apples and gin before his performance, met with this accident; and the rupture was so considerable, as to permit the passage of the fragments of apple into the abdomen.

It is remarkable that most of the ruptures of the stomach by concussion upon record are coupled with ruptures of the diaphragm; whence it would appear probable that the rupturing force had been applied in an oblique direction. In this case too the stomach has been loaded: indeed it seems questionable if a blunt force, however applied, would rupture the collapsed or empty stomach. Conrad Fabricius mentions a case, in which the stomach ruptured by a kick had passed through the diaphragm, and its contents had been effused into the chest*. Morgagni refers to two such cases in which a powerful force had been applied. Neither patient survived the third day†. Mr Wheelwright of London has related a case precisely similar in the *Medico-Chirurgical Transactions*‡. In these cases the cardiac extremity is protruded through the diaphragm, and the contents of the stomach escape by a small opening into the chest. We might have expected that the yielding of the diaphragm would have saved the stomach; but it is probable that the momentary resistance of the diaphragm, though overcome by the same impulse continued, occasions the rupture of the stomach on the principle of

* De lethal. vuln. abdom. In Schlegel's collection of tracts on forensic medicine; also Schaarschmied, *Rel. Med. Chir.* tom. vi. c. 30. In this case, which was complicated with wound of the liver, life is stated to have been prolonged to the seventeenth day.

† De Sedibus et Causis Morborum, *Epist.* 54. n. 13.

‡ Vol. vi. p. 74.

the *contre-coup*; the inconsiderable size of the aperture and the effusion taking place in the chest having been determined by the yielding of the diaphragm.

2. *From abscess, ulcer, scirrhus tumour, sphacelus, or chemical disorganization.*

a. Abscess on the anterior surface of the stomach provides for itself by adhesion and opening upon the surface of the body; in which case, it either heals presently, or degenerates into chronic fistula; of both which terminations there have been many instances. This renders the wound compound. A good case is given by Mr Atkinson, in the Philosophical Transactions, in which, on separation of the eschar from a tumour situated in the region of the stomach, half a pint of ale was ejected in a full stream; the wound healed in six weeks*. Morgagni mentions a cicatrix of a tumour of the epigastrium, which had receded during uterogestation, opening and discharging the wine and pudding just received into the stomach; the wound healed perfectly †. Abscesses, however, both of the stomach and other viscera, frequently discharge themselves by the canal; and it is probable, that the large ringlike ulcers, situated on the posterior surface of the stomach, and guarded by a firm adhesion to the bed on which they rest, which are occasionally seen in morbid bodies under dissection, have their origin in abscess. They differ from the ulcer of the mucous coat in their much larger size, the coats being all equally destroyed to the extent of the aperture, and the equal roundness by an adhesive process of the margin of the ulcer, which has been, I imagine, that of the abscess. I formerly published a case, in which I met with such an ulcer on the posterior surface of the stomach, bound down to the crura of the diaphragm, in an aged woman, who died after the operation for crural hernia ‡. I have since seen a similar specimen.

b. Ulcers of the stomach are by no means rare, in which the villous and cellular coats have been destroyed to the breadth of a sixpence or double this, being sometimes circular, sometimes oblong, and generally situated in the pyloric extremity, leaving the peritoneal tunic entire,—and this, as there is reason to believe, yielding to accidental distension, so as to permit the sudden and fatal effusion of the contents into the abdomen. The smallness of the aperture, its centrality in reference to the ulcer, and the effusion taking place after a meal, or an exertion, or both, together with the appearance of the foramen, have led me to think the ultimate result casual. A case of this sort was mentioned

* Phil. Trans. abr. vol. vii.

† Epist. 36. n. 31.

‡ Med. Chir. Trans. vol. viii.

in the Appendix to my "Treatise on Injuries of the Intestines." Another was the subject of a communication by Dr Crampton of Dublin, to the Medico-Chirurgical Transactions of London*, to which I took the liberty of appending other recent instances with observations, which comprise all that I have to offer upon the subject. Dr Van Horn has made a well marked case of this class the subject of his inaugural thesis†. Another is recorded by Dr Peter, in Hufeland's Journal‡; and my colleague, Dr Elliotson of St Thomas's Hospital, has very recently contributed another to the melancholy list §.

In a periodical French Journal, containing a report of the *post mortem* examination of the justly eminent and regretted Professor Beclard, mention is made of a cicatrix of an ulcer in the small curvature of the stomach. It was a fossa bounded by cord-like edges. He had been the subject, several years ago, while engaged in intense night study, of urgent gastrodynia, accompanied with other distressing symptoms of dyspepsia, which had compelled him to adopt and maintain a very rigorous system of diet. There can be no doubt, especially on the hypothesis of mechanical lesion giving the fatal termination to these cases, that, with the aid of a favourable position of the ulcer, as in M. Beclard's case, and great strictness of diet, such ulcers would have a fair chance of healing. The constitutional strength has seldom been materially depressed. There has been no confinement from illness, to explain the abrupt appearance of the symptoms; and we know, that ulcers of the mucous coat of the intestines heal in numberless instances. The practical inference is important, where circumstances lead to a suspicion of the existence of an ulcer; and a minute investigation of the previous symptoms in these unfortunate persons, so as to establish a diagnosis, is what principally demands the attention of the practitioner under whose notice such cases may in future fall.

c. Malignant tumours and scirrhus indurations of the lower orifice of the stomach and pylorus, sometimes suddenly terminate life, as those of the colon do, by ulcerated and bursten apertures above or adjoining the contracted or obliterated canal. I have specimens demonstrating this sequel of the disease in both structures.

d. Livid spots in acute inflammation of the stomach have been supposed to be gangrenous. They are sometimes seen after the inflaming mineral poisons, as arsenic, corrosive sublimate, &c. I have never seen sphacelus, *i. e.*, separation from a process of mortification of the coats of the stomach, but often in other parts

* Vol. viii. † De Ventriculi ruptura. Diss. Inaug. Berlin 1817.

‡ Quart. Journ. of Foreign Medicine and Surgery, No. 18.

§ Med. Chir. Trans. vol. xiii. p. 1.

of the canal. About a month since, I was called to a female of middle age, who, after a succession of bloody stools with great pain of the lower belly and tenesmus, had just passed a portion of the entire cylinder of the colon, six inches in length, including the sigmoid flexure, in a state of putrefaction. On inspecting the abdomen after death, which happened two days subsequently, no trace of a preparing or repairing process appeared, nor was there any evidence of effusion of the contents of the bowels.

e. The concentrated acids and caustic alkali destroy the texture of the stomach, and pass into the abdomen. In a child who had swallowed a quantity of oil of vitriol, and died a short time ago in St Thomas's Hospital, a large shredded hole was found in the great curvature of the stomach. The oxalic acid, of late so frequently swallowed by accident or design, acts in this way on the coats of the stomach; but not so speedily as to render superfluous the evacuation of the stomach by means of the syringe, to the timely use of which one of the few instances mentioned of preservation from the destructive effects of this poison was attributable. The same observation applies to the other articles of this class. Indeed, it is not on this principle that we can account for the rapid dissolution of persons who have swallowed these liquids; nor in my opinion for the slower destructive operation of poisons which inflame. It is probable, that the holes made by the caustic poisons, analogous to the solvent action of the gastric juice, both actions being purely chemical, are in most instances posthumous.

3. From a knife, fork, or other foreign body swallowed, or a blunt sword, bougie, or other instrument introduced by the esophagus.

An almost incredible catalogue of *cultrivori*, under the head "*phantophagus*," is given by Ploucquet. It is remarkable, that knives and various foreign substances which have passed into the stomach, have seldom injured the texture of that organ. There are numerous well known instances of large earth-stones, fruit-stones, coins, glass, shells, keys, rings, crosses, hair, fish, reptiles, insects, &c. which have cleared the esophagus, and have produced no injury to the stomach; although some have caused immovable obstructions at the valve of the colon, and other parts of the intestinal canal, inducing fatal ileus, or abscesses and fistulæ, which have given issue to these foreign bodies at the umbilicus or groin. In general, they slowly clear the canal, and are voided without mischief. In the man Cummins, whose body I examined at Guy's Hospital many years ago, the stomach had escaped. He had been a great glutton in his way, having swallowed, and in a great measure digested, I think, eighteen clasp knives. The intestines were perforated in two or three places, and one, the top

of the rectum, transfixed. No effusion had, however, taken place, the aperture being filled up by the pieces. The stomach held a vast number of corroded fragments* of the back springs and blades, the horn handles having all disappeared.

A Parisian juggler, exhibiting upon the Boulevards, two or three years ago, lost his hold of the sword-shaped lathe, nine inches long, which he had introduced into his gullet, and after several months of apprehension, and severe suffering, he became a patient in one of the hospitals, I believe the Hospice de l'Ecole de Médecine. Eventually an abscess presented at the upper part of the thigh, in opening which, the lathe was struck upon, and withdrawn. It was supposed that it had made its way from the stomach between the peritoneum and muscles of the abdomen. The man was soon afterwards discharged in health.

Soon after entering the profession, I witnessed the death of a man under symptoms of great distress, the subject of a stricture of the esophagus, from the imprudent use of a bougie of extraordinary length pointed at its extremity. Judging from the depth to which the instrument was carried, the pain which almost instantly followed the operation in the region of the stomach, and its increase during the two remaining days of his life, with frequent and ineffectual efforts to vomit, no doubt could be entertained but that the bougie had perforated the coats of the stomach †. His body was not examined.

It is remarkable that penetrating instruments, incapable from their dimensions of passing the duodenum, should, even with the aid of every precaution, remain for weeks and months in the stomach, without piercing its coats or exciting inflammation. Frequent nausea, sharp pains, incapability of lying on either side, and the necessity of preserving, whether erect or recumbent, a straight position of the body, are generally mentioned as the symptoms which are experienced. The constantly though slightly varying position of the instrument, resulting from the gentle and gradual, but unintermitted alteration of capacity and figure of the muscular bag, and the extraordinary secretion of a sheathing mucus, in addition to the instinctive quiescence of the patient, are the circumstances which must, I imagine, constitute the security that is afforded from perforation. It does not appear, indeed, why the delivery ~~from~~ such penetrating instruments, as in the case just mentioned and many others, should not in the course of time be effected with safety, as it is well known that pins and needles wander to the surface, the patient

* These are preserved in the Museum at Guy's Hospital.

† I have heard of a case in which the esophagus was penetrated above the stricture, and a false passage established in the mediastinum, as was ascertained by *post mortem* examination.

keeping a due restraint upon himself, in failure of which, mischief from the wounds of large bloodvessels or diffused inflammation must in all reasonable probability ensue.

The cases which I have next to mention, are those of

COMPOUND LESIONS.

1. *From a wound by a knife, sword, bullet, or other foreign body penetrating the stomach through the abdominal parietes, without protrusion of this viscus.* Under this head come first, as the simplest cases, the operations of gastrotomy.

The case of the Prussian peasant, related by Becker and others, who dropped a pocket knife ten inches long into his stomach, in an attempt to excite vomiting, and was the subject of a consultation of all the medical men in Koningsberg, and of a successful operation for its extraction by Daniel Schwaber, is among the most famous on record. The knife, with a portrait of the peasant, is exhibited at the electoral library of Koningsberg. *en.*

A similar case and operation happened at Prague. The knife was nine inches long, and its extraction was performed by Florian Mathis, surgeon in chief to the Emperor, two months after the accident. A third case was the subject of operation on the eleventh day from the accident, at Rastembourg, by Hubner: the patient was a female, and the point of the knife, which was in length seven inches, had already penetrated the stomach, and excited a slight suppuration at the wound. The incisions in all these cases appear to have been made in the left hypochondrium, where the points of the knives presented above the great curvature.

M. Hevin, who cites these cases *, advises, that, for the operation, the stomach should be in a middle state between emptiness and distension, on account of the change of position in the extreme states, and the greater danger of wounding either of the curvatures, on the avoidance of which and the vessels there situated, the success of the operation mainly depends †. The following is a recent case. A young man accidentally swallowed a silver fork eight inches in length. M. Renaud, surgeon of Romans (department of the Drome), undertook the operation of gastrotomy; and, in the presence of several members of the fa-

* Sur les corps étrangers arrêtés dans l'œsophage. Mem. de l'Acad. de Chir. tome i.

† Suture of the wound in the stomach, the extremities drawn through the parietal wound, and ligatures upon this, were most probably applied in each of the above cases, though mentioned only in the first.

culty of Medicine of Paris and Montpellier, succeeded in extracting the fork. The young man is considered out of danger and was expected to recover in a short time*. *Tablettes Universelles*.

I shall now mention two cases in which the operation was not performed.

An occasional lunatic, who stated that in a fit of despondency he had swallowed an iron fork three years previously, but who was not credited, the examination of his person not affording any evidence of the fact,—hung himself. On dissection, the stomach was found to contain a fork of japanned iron, the prongs of which were closely pressed together. All the other viscera were sound †.

In the Edinburgh Philosophical Journal, Dr Barnes relates the case of Dempster, a juggler, who let slip into the stomach a table knife nine inches long, while practising the sham feat at Carlisle on the 17th of November 1823. The handle of the knife could be distinctly felt a little above the umbilicus when the stomach was empty, but not when distended. His sufferings were not very severe, but his health declined rapidly. He died in consequence of inflammation and gangrene of the stomach, brought on by the motion of the vehicle in travelling towards London, at Middiewich in Cheshire, on the 16th of January 1824, thus having survived the accident only two months. As it is stated to have been the unanimous opinion of the surgeons of Carlisle, that the knife should have been cut down upon, there can be little doubt that the man fell a victim to his own apprehensions or obstinacy. However this may be, I must be permitted to remark, that the profession loses credit by suffering such opportunities of saving life to pass unimproved, especially upon reference to the performances, above related, of our distant ancestors, whose feats, with all our real and assumed advantages from the *march of science*, would create upon this and some other subjects no ordinary sensation, if achieved with equal promptitude and success at the present day.

Hevin, in the interesting memoir before referred to, mentions a small sword wound of the stomach, treated by M. Coghlan of the Belle Isle Hospital. It was followed by very copious and repeated vomiting of blood, and cured by vigorous confinement, large doses of alum, and a process of starvation. Bohn in his Treatise, “*De Renunciacione Vulnerum*,” cites fatal cases from Forestus, Lusitanus, Ab Heers, ~~E.~~ Bartholin, and adds *Th* two from the Transactions of his own College of Leipsic, all fa-

* Quart. Journ. of Foreign Medicine, No. xviii. April 1823.

† Medic. Chirurg. Journ. No. xxv. Jan. 1818.

tal on or before the second day. Morgagni has a case fatal in thirty-six hours, from internal hemorrhage, although no large vessel was discovered to be wounded. The wound in the stomach was equal in breadth to that of a filbert*. Bonetus also mentions a sword wound which divided the vessels of the fundus, and terminated in death on the third day. Cowper, in his 35th Table, mentions two sword wounds of the stomach, in one of which a large quantity of blood was ejected by the mouth, yet the patient recovered before many days; another, in which the blood and aliment were discharged into the abdomen and destroyed him. Le Dran's eighty-ninth observation, communicated by M. Menteville, sworn surgeon of Paris, is that of a sword-wound penetrating the stomach and diaphragm. This is an instructive lesson, shewing the importance of abstemious regimen under which the patient was doing well up to the seventh day, and the fatal danger of a deviation, owing to which he died on the tenth. A small portion of omentum had passed through a slit of the diaphragm; the lungs were uninjured. Dr Thomson, after the battle of Waterloo, saw two patients recovering from wounds of the stomach; one of these wounds had been made by a lance, the other by a musket ball. In both, the contents of the stomach had come out for some days after the injury through the wounds, which were situated in the epigastric region †.

Many of these wounds have become incurable fistulæ for the remainder of life ‡; others, though of long standing, have been healed by rest and strict attention to diet. Etmuller mentions a fistula of the stomach in a woman of thirty years of age proceeding from a chronic abscess, the consequence of a blow from the pole of a carriage when under ten years of age, which discharged the aliment continually, but was at length healed by long confinement to bed §.

Diemerbroek has another of the same kind ||.

2. From a wound, with protrusion of the stomach.

An extraordinary narrative occurs in our Philosophical Transactions ¶, which I shall transcribe. "A lusty young negro man, returning home about noon, went into his house, when seeing some ripe plantains, he eat of them heartily. His father in law, about sixty years of age, coming home soon after, and

* Epist. LIV. n. 8.

† Report of Observations in the Military Hospitals in Belgium, 1816.

‡ Miscell. Curios. Dæ. ii. an. 5. Schenck, Obs. Med., par. p. 348. Bina exempla, Jul. Alexandrin, &c. &c.

§ Haller's Disp. Chir. tome v. p. 669. || Anat. lib. vi. c. 28.

¶ Phil. Trans. Abr., vol. vii.

finding the young fellow had eat up his fruit, pulled out his knife, and gave him a desperate wound in the upper region of the belly ; a vast gash being made in the stomach, insomuch, that the plantains which he had eaten burst out through the wound. The old man immediately fled for it, and the young fellow's companions hearing what was done pursued him. Perceiving them get ground of him, and suspecting their design was to kill him, he pulled out the same knife with which he had stabbed the other, and gave himself a desperate wound also in the upper region of the belly, his stomach being likewise seen, only with this difference, that the last wound was transverse, or from left to right, the first directly up and down ; the old fellow was carried home, and lay in the same house where the other lay. This happened about noon, and Mr Forrest the surgeon, came not to dress them till between four and five ; he stitched up both their stomachs entirely, and their bellies too, except only a small hole for suppuration ; a fever seized each of them, and held them about a fortnight. The wounds were brought to a good digestion, and in about a month's time the young fellow went abroad, but the old man, who was in most danger, lay something longer ; however, they were both perfectly cured, and have been very well ever since, though it is above fifteen years ago."

A more recent and not less extraordinary case, is reported in the *Bulletin de la Faculte de Medicine*, with observations by M. Percy. I regret, that not having access to this work, I am not acquainted with the tenor of M. Percy's observations. The substance of the narrative is as follows :

" A boy aged twelve, pruning trees, fell, about two hours after his dinner on the 18th of August, from the height of ten feet, upon a hedge. A pointed branch of hawthorn, nearly two inches in circumference, entered the stomach by the left hypochondrium. The organ presented itself through the wound by its great border, which was parallel to it, and an inch and a half in extent. When visited an hour afterwards by a surgeon, his shirt was soaked with blood, and the aliment previously taken. The retroversion of the borders of the rupture, prevented the spontaneous return of the viscus. Cold extremities,—contracted pulse,—altered expression,—a face bathed with sweat,—hiccup and vomiting on the slightest movement or pressure of the epigastrium. On cleansing the wound, a portion of the gastro-colic omentum came into view. Doubled waxed threads were passed by a curved needle through the gastric membranes, in a direction parallel to the external wound, and the stomach was readily reduced. The extremities of the ligature were retained externally, in order to prevent effusion into the abdomen, and the necessary sutures made upon the external wound. Charpée compresses and body bandages. Rigid diet.

19th. Fever. Venesection.

20th. Debility, with continued sleeplessness. Tension and pain of the abdomen relieved by an injection.

23d. Slight suppuration. No fever.

24th and 25th. Fluid drunk issued in part at the wound.

26th. Uneasiness, periodical colic at midnight, and for four successive days, with lancinating pains in the wound.

31st. One of the ligatures detached. Abundant suppuration, with some sphacelated portions of the gastric membranes.

Sept. 2d. All the ligatures detached. Separation of the gangrenous portions continuing. Wound contracting by adhesion of the stomach to the parietes. Insatiable hunger.

9th. Swelling of the umbilical region,—formation of abscess in left groin, which was opened on the 29th.

Oct. 4th. Closure of the abscess after the discharge of a large quantity of fetid pus.

30th. Sudden edema of the left side of the thorax, and abdomen.

31st. Swelling of the face with orthopnœa. Bark, and general frictions of camphorated spirit. Detachment of the dried cuticle. Return of free cutaneous perspiration and healthy secretions, and the boy soon regained his ordinary bulk and strength."

With these cases and that which stands at the head of this paper, as specimens of wound with protrusion, I must content myself, though a further research, as it would not be unproductive of materials even to a great amount *, could scarcely fail to be useful.

I think it appears, 1st, That the peculiar susceptibility of inflammation from exposure of the peritoneal surface, whether founded on the old notion of the hurtful properties of air on the interior of sores, or upon the injured integrity of the sac, has been much overrated. Dr Blundell, from his numerous experiments, comes to this conclusion. In Sir Astley Cooper's case of ligature on the abdominal aorta, and in a late case of extraction of an extra-uterine fœtus by Dr Mott of New York, although both patients survived long enough to be destroyed by peritoneal inflammation, none appeared. The very general success of the operation for hernia, when performed early, confirms this opinion.

2dly, Not only Hippocrates † and Celsus ‡ were in error in

* Morgagni, Epist. LIV. n. 10., a complicated sword wound of the lungs, diaphragm and stomach on both sides, with protrusion of the omentum. See also Schenk, Vanderwiel, Valentini, Prax. Chirurg. Commerc. Liter. Norimb., &c. &c.

† Sect. vi. Aphor. 18.

‡ Lib. v. c. 26.

pronouncing all wounds of the stomach mortal, but Bohn, Teichmeyer*, and other qualifiers of these dogmas in their circumstantial exceptions went upon far too narrow an estimate of the resources of nature, and rather embarrassed than clearly established the prognosis †. Abundant examples have shewn, that neither the depth nor size, nor direction of the wound, nor the division of considerable bloodvessels and nerves, nor the protrusion even to strangulation, with a wound of this or other viscera, are unsurmountable obstacles to recovery. The unexpected failure of cases favoured by local circumstances, has been not less remarkable than the felicitous termination of the least promising. The attempt to form a prognosis on a hypothetical basis is little better than trifling, being subject to continual delusions as to the fact and exceptions as to the principle. In a practical view, a reliance on its infallibility may in certain cases damp the hopes, and possibly enfeeble the exertions of the practitioner; and it is therefore mischievous. In the case which stands at the head of this paper, I confess, that, with a strong faith in the restoring principle, I viewed the patient's situation as hopeless. Her chilled and deathlike aspect; the appearance of the protruded parts, discoloured and desiccated by an exposure and partial strangulation of near seven hours, and a leaking wound in the stomach, led me so to express myself to those around me. Such circumstances, however, operating upon a mind unfettered by authorities and dogmas, stimulate rather than depress the natural impulse to administer to the necessities of nature; and hence, "*Nil actum reputans, si quid superesset agendum,*" the surgeon is in some danger of incurring the reproach of over anxious zeal in her service.

3dly, I believe that the mode of treating the stomach wound in this case, was the best under the circumstances. I had so healed a wound of the small intestine in a dog, and had afterwards seen an opening in the sound human intestine successfully managed in the same way at Guy's Hospital. If the wound be large, as an inch or more in extent, presenting a tumid eversion, the uninterrupted suture should be applied and cut, as was this ligature, close to the knot. We now know, that the principle of retaining the wounds of the viscus and the paries abdominalis in apposition by the extremities of the suture is erroneous; that nature provides safely for the discharge of the ligature internally with a less extensive and, therefore, less restrictive adhesion, removing, at the same time, all obstacles to the immediate healing of the parietal wound. No point of the pa-

* *Instit. Medic. Legal. cap. 23. qu. 4.*

† The ablest and most comprehensive view of this subject, is presented by Fabricius in his dissertation "*De lethalitate vulnerum ventriculi, secundum principia anatomica et medica expensa.*" Helmst. 1751.

thology of wounded bowels of greater practical value than this has been established by experiment and observation.

I have never had occasion to apply a suture to a wound of the stomach; but I have ventured to recommend the uninterrupted suture in preference to the stitch, where one or other is required, on the ground of analogy, having found it in wounds of the intestines to produce a narrower, firmer, more uniform, and independent cicatrix. In point of security from effusion, as I have elsewhere said, provided complete apposition be obtained, it is of little comparative importance what mode of suture is employed. For example, if three single stitches include a portion of the labia sufficient to insure complete contact of the everted mucous surfaces of a divided intestine, this object is attained; but if, to avoid encroachment upon the calibre of the canal, such a narrow portion only of the everted lips is included, as is sufficient for the security of the suture, should it be uninterrupted, the retraction of the edges between the points of approximation by which the contraction of the extremities is prevented, will leave apertures for effusion. And this statement, which is not a speculation but a fact, is in no respect at variance with the results of certain experiments, in which three or four stitches have been found sufficient to procure union. In these examples, the whole breadth of the everted lips has been comprehended by the stitches, and their consequent complete apposition has been ascertained before returning the part into the abdomen;—a point which was purposely disregarded in my experiments: for, as it was found that no permanent adhesive union took place between the mucous surfaces, it was conjectured that their contact at all points might be unessential, especially as some writers and operators had boldly recommended a single stitch opposite the mesentery, as the only expedient necessary in a case of divided intestine; the egregious incorrectness of which advice these experiments fully demonstrated*.

It will be seen, that I have availed myself of this occasion, to offer a short vindication of my consistency, in a decided preference of the uninterrupted to the stitch suture †, in answer to the observations of Mr Samuel Cooper, in the last edition of his Dictionary: and I shall be happy if it prove satisfactory to an author, whose industry and intelligence have so deservedly obtained for him the respect and gratitude of the profession,

* In læsionibus exiguis sufficit partem læsam prominentem reponere. In gravioribus enterographiâ opus est. Hæc uti vulgo perfecte et complete perficitur, a recentioribus rejicitur ob symptomata quæ adferre solet inflammatoria. Hinc medium tantum vulneris locum acu perforandum et filo vulneri externo attrahendum. Junckeri Conspect. Chirurg. Tab. 55.

† Whoever will take the trouble to compare the cicatrix in the two cases, will be better satisfied than by any arguments of its superiority in all respects.

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 † Whoever will take the ...