

**Practical observations on herniae : illustrated with cases / by B. Wilmer, surgeon, in Coventry.**

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PRACTICAL  
OBSERVATIONS

ON

*HERNIAE;*

ILLUSTRATED WITH CASES.

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By B. WILMER,  
SURGEON, IN COVENTRY.

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*THE SECOND EDITION, ENLARGED.*

L O N D O N.

PRINTED FOR T. N. LONGMAN & O. REES, PATERNOSTER-ROW.

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## ADVERTISEMENT.

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**I**N many respects the present Edition will be found to differ materially from the former. Besides an account of some cases which the Author's practice has since furnished, the Reader will find a description of a new mode of reducing strangulated Herniæ, which has succeeded after all the remedies hitherto recommended had failed.

It is true only two instances have *yet* presented, in which an opportunity of putting it to the test has been afforded, and it requires a more enlarged experience to fix its merit; yet if an early Publication shall induce others to give it a trial, and be the means of rescuing one individual from so dangerous a situation, the Author will not think he has employed his time in vain. In the former



Edition remarks were made respecting the frequent existence of strictures in the neck of the hernial sac. Subsequent experience has confirmed their propriety, as in one third of the cases in which the Author has been obliged to have recourse to the knife, the cause of the strangulation was in the neck of the hernial sac; and he is convinced, that if the inexperienced Operator considers the stricture to be found only in the tendinous openings of the abdominal muscles, many lives must be unavoidably lost. He was early led to the consideration of this subject, having seen the Intestine burst by the rude efforts made to return it, after the opening of the external oblique muscle had been dilated, in two cases where the operation for strangulated Herniæ was performed during his attendance at the London Hospitals.

COVENTRY,  
Sept. 21, 1802.



P R E F A C E.

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THE History of Medicine affords not a clearer proof of the utility of anatomical knowledge than the treatment of Herniæ, which has been more immediately the province of Surgery. Ignorant of the structure of the parts which were the seat of the disease, surgeons continued uninformed; and from the early age in which *Celsus* appeared, to the close of the last century, no great degrees of improvement in these Instances are recorded, but the opinions and practices which custom had established were carefully taught, with all their faults, to the succeeding times.

If the regular practitioners in surgery seemed to be inattentive to the cure of these complaints, there was found another set of men, who boasted of art sufficient to remove



them. The boldness of these pretenders usually bore proportion to their want of knowledge, and both of them, in no small degree, seem to have been the striking marks of their character.

The intricate steps which lead where the sources of science can be found, they had not taken; but all their defects of skill they supplied with never-ceasing confidence; and the daring attempts, to which their want of merit gave birth, were, by the ignorant, thought to be the proofs of it. Till the time of *Heister*, the care of persons, who were thus afflicted, was, in most parts of Europe, generally left to itinerants of such a character as hath been described. These wandering practitioners, in all cases they undertook, used the most dangerous methods: nor is it strange that their operations were often fatal to the patients, whom a more rational treatment might have restored. In most instances, with much temerity, they destroyed the spermatic chord by burning, incision,



incision, ligature, or some equal violence ; and frequently when neither a strangulation of the parts, nor any other circumstances, made it necessary to resort to such inhuman and harsh methods of treatment.

The mischievous progress of these empirics, at length, became hurtful enough to require the interposition of the magistrate ; and, in some places, their further evil practices were thereby prevented.

With regard to the present state of this branch of the Healing Art, when the praise which is owing to modern Surgeons, for the improvement they have made in it, is allowed, it must also be observed, that, probably, it will yet admit of many useful additions.

The discovery of the *Formation* of the Tunica Vaginalis hath led to the knowledge of a species of this disease, which a late and celebrated writer supposed to be a *Lusus Naturæ* ; yet, from the uniformity of the natural course of things, it is not to be doubted that  
it

it must have happened, not only frequently, but in every age.

As some of the opinions contained in the following sheets differ from those which long usage hath established, and which are supported by the highest chirurgic authority, the Author thinks it necessary to declare, that he would not have submitted them to the public eye had they not been the result of attentive and practical observation.

OBSER-



## OBSERVATIONS

ON

## HERNIAE.

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**A** HERNIA or rupture is a protrusion of some part or parts which ought to be retained within the cavity of the abdomen.

The different species of herniæ are distinguished by different names, derived either from the nature of their contents, or the situations they respectively occupy. Thus, a tumor formed by a protrusion of part of the intestinal canal is called enterocele. If by the omentum only, epiplocele. If compounded of intestine and omentum, enteroepiplocele. In respect to situation, if the rupture is at the navel, it is denominated exomphalus; if in the groin, inguinal, or bubonoccele. When it descends to the lower part of the scrotum it is called oschioccele, and if at the upper part of the thigh, the rupture is said to be femoral.

The term rupture conveying an inaccurate idea should no longer be applied to a description of this disease. Those who first distinguished these



swellings by that term imagined, that a forcible laceration or division of the peritoneum or membrane which gives a covering to the cavity of the abdomen and all its contents, was made at those parts where the protrusion happened. In the living body the viscera are so closely compacted together, that they suffer some degree of pressure from the muscles and integuments with which they are enveloped, hence we see that when a wound, even of a moderate size, penetrates the cavity of the belly, a kind of hernia or protrusion of some of the viscera immediately occurs, arising from the resistance at that part being removed, and unable to counteract the compressing power of the muscles. In some of these cases it is difficult to replace, and still more so to retain the prolapsed parts, which for this purpose requires bandage and strong ligatures. For the passage of the vessels from the mother to the child at the navel; for the egress of blood vessels and lymphatics under Poupart's ligament at the upper part of the thigh to the lower extremities; for the transmission of arteries and veins to the testicles, &c. &c. it was necessary that openings should be made. At these places the defences are weakened, and here of course, from blows, falls, or any unusual exertions of the compressing powers of the abdomen, ruptures may be expected to happen. In order to have an accurate idea of the different kinds of herniæ it will be necessary that the parts in which they

they



they are found should be described, particularly the state of the testis in the foetus, and the changes it undergoes previous to and soon after birth.

The external oblique muscles of the abdomen and their tendinous openings are those only where herniæ are situated. They begin by fleshy portions from the seventh, eighth, and the inferior ribs, these portions indigitate with corresponding parts of the latissimus dorsi and serratus major anticus, and becoming tendinous are inserted in the linea alba, the spine of the ilium, and the os pubis.

A little above the os pubis, on each side, the fibres of this expanded tendon separate from each other forming an opening of a figure nearly oval for the passage of the spermatic vessels in men, and the round ligaments of the womb in women. Part of the border of this tendon attached to the os ilium, and stretching from thence to the pubis is called Poupart's ligament, forming a passage for the large blood vessels, &c. to the leg and thigh, and from this a thin fascia of fibres covers the inguinal glands, and unites with the fascia lata of the thigh. Poupart's ligament being longer in women than men on account of the larger size of the pelvis, and the passage for the vessels to the lower extremities wider, hence the femoral hernia is more common in that sex than the other. In the foetus, the testis on each side is usually found immediately under the kidney, on the anterior part of the psoas muscle, and near that part of the



rectum which is above the brim of the pelvis.—Connected by its posterior edge to the psoas muscle, it is covered by the peritoneum in every other part, and with the viscera of the abdomen, receives from that membrane a smooth and polished surface.

Before the testis descends through the abdominal opening, it is, in some degree, connected with that aperture by a ligament, which seems to have an influence in directing its descent. This ligament is, in form, like an inverted pyramid; its larger extremity or basis is attached to the inferior part of the testis and the corresponding portion of the epididymis: its lower extremity unites with, and is lost in, the dartos. The peritoneum is united to the inferior surface of that part of the ligament, which is within the cavity of the abdomen.—This membrane adheres much stronger to the testis than to the neighbouring parts, over which it is very loosely spread, and this laxity of the connecting medium of cellular substance facilitates very much the subsequent descent of the testis, and the production of its tunica vaginalis. At some indefinite period of gestation; sometimes in the seventh month, often in the eighth, and sometimes not until after birth, the testis leaves its original situation in the cavity of the abdomen, and by slow gradations is moved through the external abdominal muscle into the groin, or scrotum. It is preceded in this route by its conducting ligament, whose office appears



pears to be, not only to guide it into its destined situation, but also to prepare its passage by dilating the opening of the abdominal muscle.

Favoured by the very loose and yielding state, with which the peritoneum covers the parts contiguous to the testis, whilst it was contained in the abdomen; when it descends, it brings that membrane with it, *behind* which it is situated. From the inferior part and sides of the testis, the peritoneum is reflected, and forms a *pouch* communicating with the cavity of the abdomen. This pouch, thus formed, resembles a hernial sac, the anterior part loose, the posterior adhering to the testis, epididymis, spermatic vessels, and vas deferens. The anterior or reflected part becomes the tunica vaginalis, and the posterior part connected with the testicle is called tunica albuginea.

From the state of the parts thus described, it must appear evident that the testicle, and all the vessels connected with it, must be *behind* this production of the peritoneum.

Soon after the testis has passed through the external oblique muscle, its opening communicating with the abdomen closes, and in general is from that time totally obliterated\*. The inferior part  
remains

\* That this happens is demonstrated by dissections, and by the hydrocele which young children frequently have, which could not possibly occur unless the opening was obliterated. I



remains loose, and forms the tunica vaginalis testis. If the closing of this opening is prevented by the interposition of a portion of intestine, or any other cause, a communication betwixt the cavity of the abdomen, and that of the tunica vaginalis is established; at whatever period afterward a hernia happens, its contents will be found in contact with the tunica albuginea of the testis, and thus the *lusus naturæ* of Mr. *Sharpe* is explained, and the supposed rupture of the ancients very readily accounted for. The celebrated *Haller* having observed, that sometimes, in infants, the intestine falls down into the scrotum with the testicle, or soon afterwards, and entering the tunica vaginalis before the opening communicating with the belly closed, was found in contact with the testis. He therefore denominated this species of disease *hernia congenita*. It is extremely probable that most inguinal ruptures, to which children are liable, are of this kind; for although it is certain that very early efforts to close the upper part of the new-made peritoneal process are made, it may be supposed, by the effort of crying, straining, &c. the cicatrix may, with little force, be separated again.

Parents cannot be sufficiently careful in their attention to this disease in their children; for when

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saw a child lately, only three days old, that had an hydrocele on each side; after attempting, in vain, to disperse the tumor by absorption, I opened the tunica vaginalis with a lancet, after which there was no return of the complaint.

a por-



a portion of intestine insinuates itself into the orifice of the tunica vaginalis, a hernial sac is formed; into which, at any future period, (although the first disease may disappear,) a portion of intestinal canal, or of the omentum, may be protruded. It has been found, by repeated experience, that the hernia congenita in adults, when in a state of strangulation, is a disease much more dangerous than a simple bubonocoele. In this case, it frequently happens, that the impediment to the return of its contents into the belly, is occasioned by a stricture in the neck of the sac. Authors who have written upon this subject endeavour to account for the fact by observing, that the hernia congenita having existed in infancy, it was probable that trusses had then been applied, and by the pressure of the pad, the contraction of the neck of the sac had been produced. But whether the stricture is occasioned by this circumstance, or the operation of the first efforts of the constitution to close the passage, is not yet sufficiently ascertained. It must be observed, that the part where this stricture is generally found is at least an inch higher than the opening of the external abdominal tendon, and therefore out of the reach of the pressure of the truss. It has been mentioned by writers of the first credit\*.

Mr. *Samuel Sharpe* having found the intestine in several instances in contact with the testicle, en-

\* *Le Dran*, Observ. 58. *Arnaud*, p. 382. *Dionis*, 324.



deavours to explain the phenomenon by observing,  
 “ it is evident to me that, notwithstanding the  
 “ peritoneum may at first fall down with the  
 “ viscera, yet, in length of time, it may also be  
 “ ruptured, because I have found the intestine and  
 “ omentum within the tunica vaginalis of the testis,  
 “ and in contact with the testis itself, which they  
 “ could not possibly have been if they were en-  
 “ veloped in a portion of peritoneum: however  
 “ we find this circumstance occurs but rarely; for  
 “ we usually find the viscera within a prolapsus of  
 “ the peritoneum, which is known by the name of  
 “ the herniary sac\*.” As far as my experience  
 goes, I believe the hernia congenita is more fre-  
 quent than is generally imagined; and of those  
 who have been obliged to submit to the knife, the  
 proportion has been more than one third.

The manner in which a common hernia is formed  
 is frequently this:—A kind of weakness is per-  
 ceived in the groin, where a small tumor is apparent  
 upon any unusual exertion of the abdominal muscles  
 after coughing, sneezing, &c. A sensation is felt  
 as if the little swelling contained air. The tumor  
 is not fixed but retires spontaneously, and the least  
 pressure with the fingers makes it disappear. The  
 frequent returns it is subject to gradually dilates the  
 tendinous aperture of the muscle, the swelling  
 enlarges, appears of a semi-oval form, and, by

\* Critical Enquiry, p. 3.



degrees, a complete duplicature of the intestine is engaged in it. In this state the contents of the hernia usually recede in the night and prolapse again in the morning. In process of time, having been often exposed to the strong compressing powers of the abdominal muscles, the swelling first occupies the groin, and then descends to the lower part of the scrotum.

Whether the hernia is thus gradually formed, or more suddenly produced by some violent and more active cause, the intestine or omentum push before them a pouch formed by the peritoneum, which, being surrounded by a loose cellular membrane, is easily dilated, and thus is produced the hernial sac. This sac, after it has been completely formed, is supposed, by contracting adhesions to the neighbouring parts, to be incapable of being again returned into the belly. Indeed it is generally found, that, when the contents of the tumor recede into the abdomen, the hernial sac may be easily distinguished to be left behind. Like all other parts of the body in an unnatural situation, the sac becomes thickened and diseased, and this morbid alteration in its structure is dependent upon the duration and size of the tumor.

Some of the *French* authors have asserted that, after the tendon of the external oblique muscle has been dilated, the operator, not being aware of the possibility of the stricture in the hernial sac, had returned the intestine, still inclosed in the sac, into



the abdomen, and from the stricture remaining undivided, the case proved fatal. But it is an undoubted fact, except in very recent herniæ, that the sac, soon after its protrusion from the abdomen, contracts adhesions to the neighbouring parts; and after the return of its contents into the belly (in whatever way it is accomplished), it ever afterwards remains in the groin or scrotum. It seems possible, that, in very recent descents, the sac, not having had a sufficient time to form adhesions with the contiguous parts, may be returned into the belly, and an instance of this is recorded by Mr. *Bell* in an operation at which he was present. But there are so many reasons for dividing the sac in the operation that it should never be neglected.

Ruptures are very common in children, whose fibres resist with little effect the force with which the contents of the belly are pushed by crying, straining, &c. The disease is often left to the management of nurses or ignorant people, and is, in general, much neglected. In the early period of life the tendinous fibres forming the abdominal apertures easily give way; and the contents of the hernia are generally, by a recumbent posture, or a slight degree of pressure with the fingers, returnable into the abdomen\*. But in more advanced life the fibres

\* A strangulation sometimes occurs in the hernia of children. I was lately called to Rugby, in consultation with Mr. *Bucknell*, to a child not two years of age.—The tumor was hard, attended with



fibres are more rigid, and when, by some violence, a protrusion of the intestine happens, the veins of the intestine are compressed by the resistance of the edge of the tendon, and the most alarming appearances often ensue. At whatever age, or under whatever circumstances, a rupture happens, it demands an immediate attention; for although it must be acknowledged that in infancy a strangulation very seldom ensues, yet that is a period when the assistance of art, properly employed, will always be attended with success. In the ruptures of adults, unless the case is recent, there will generally be more uncertainty of the event.

It has been observed, in the account of the formation of the tunica vaginalis, that soon after the testis is protruded through the abdominal opening, nature uniformly makes an attempt to close the upper part of the peritoneal pouch, and the adhesion of its sides to each other is generally completed in a very short space of time. A recent hernial sac is exactly the same kind of production as the tunica vaginalis. They are both an elongation of the peritoneum; and if we reason by analogy, we may suppose that in infants, if the

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with vomiting and costiveness. He had been very ill during two days, in which attempts had several times been made to reduce the parts. Though we at last succeeded by the taxis, I never remember to have had more difficulty in an adult patient; and it was more than a quarter of an hour before the parts would, in the least, give way to the pressure I used.

newly-



newly-made hernial sac could be kept empty for the same space of time as is required for the obliteration of the opening of the tunica vaginalis, the same effects would result in both. In young children linen bandages are in general trusted to, behind which the tumor frequently returns; and although the disease may appear to be cured, the orifice of the sac having been frequently opened, and the abdominal aperture dilated, a hernial sac, *communicating with the abdomen*, is frequently left in the spermatic process, into which, at any future period, the contents of the belly may, by a variety of causes, be protruded.

In all cases of rupture immediate reduction should be attempted; and when that point is accomplished, the parts should be prevented from prolapsing by a proper elastic bandage.

A recent hernial sac, both in infants and adults, is no thicker than the peritoneum; its sides may, therefore, after the reduction of the contents of the tumor, be brought into contact, and by a proper and long continued pressure of the bandage, made to adhere; the future descent of the intestine and omentum prevented, and thus a radical cure will be effected.

It often happens, from inattention at the first commencement of the case, the parts composing a hernia are in such a state that they cannot be returned into the cavity of the abdomen. Medical writers have assigned various causes for this; the principal



principal of which are, the thickness of the neck of the hernial sac, adhesions of parts to each other, increase of the size of the omentum, an inflammation of the intestine, and a stricture of the tendinous openings through which these parts have prolapsed.

The omental rupture has divided the opinion of surgeons: Some contending that the omentum not being a part of great consequence in the animal œconomy, say, if it cannot be *easily* returned into the abdomen, it would be better to leave it in the scrotum, where it might be supported by a suspensory bandage; and that inconveniences may be apprehended from its lying, after reduction, like a lump at the bottom of the belly \*. Others, with much more reason, assert, that the omentum should, if possible, be reduced. It is troublesome by its weight, and is subject, by being displaced, to many diseases. By its connection with the stomach and duodenum a sickness and pain of those parts are often produced, a large quantity of omentum may be suddenly forced down into the scrotum, the circulation may be intercepted by the edges of the tendon, its vessels will be loaded with blood, and a mortification ensue. If these effects do not happen it may contract adhesions to the hernial sac, and increase so much in its bulk as to make its return impossible through the narrow passage from whence

\* *Sharpe's Critical Enquiry,*



it came. The omentum, when thus displaced, has been found to be schirrous, and diseased by steatomatous indurations. But the strongest argument for the reduction of the omental herniæ is the danger there will be of a portion of intestine slipping through the parts which the omentum must always keep in a dilated state.

When the cellular part of the omentum in a rupture is so much increased that the return has been thereby rendered impossible, several instances have occurred where the patient, having been confined by long illness, has been kept in a recumbent posture, and such an emaciation of the parts has ensued, that the contents have been found to be with great facility returnable into the abdomen. Surgeons appear to have taken a hint from this circumstance; and by evacuants and long confinement have succeeded in the reduction of some cases which, for many years, had been supposed irreducible\*.

The symptoms produced by omental herniæ are always troublesome and inconvenient to the patient, but they are not often dangerous. The writers of surgical observations have indeed acquainted us, that death has been the consequence of mismanaged cases of this sort, but those instances are by no means numerous. The knowledge of the possibility of a fatal event is sufficient to

\* *Sharpe's Crit. Enq.* p. 15. *Le Dran*, p. 114. *Arnaud*, p. 292. *Pott*, quarto edit. p. 260. *Hildanus*, *Obs. Cent.*



guard the prudent surgeon from any improper prognostic.

The enterocele, or descent of the intestine, is always a disease to which great attention should be given. Although it be very common that persons with such a rupture may find no great inconvenience for many years, yet it must be remembered that they are never exempt from danger. A strangulation of the parts may come on in the most sudden manner\*; and there have been instances where a mortification and death have happened in a very few hours after the accession of the symptoms†.

We have been informed that the cause of the alarming appearances in strangulated herniæ is a *stricture* of the openings of the tendons of the abdominal muscles through which the contents pass from the cavity of the abdomen. A very eminent writer assures us, that “a stricture made on the  
“ prolapsed part of the gut by the borders of the  
“ natural aperture in the tendon of the oblique  
“ muscle is the immediate cause of these symp-  
“ toms, which nothing can appease or remove  
“ *except what will take off that stricture.*”

If the term stricture means any thing, it certainly implies either that the fibres of the tendon are more rigid than natural, or that the diameter of the tendinous opening is rendered smaller. But in a

\* Vide Case xxiii.

† Arnaud. Pott. p. 253.



strangulated hernia neither of these events take place. The borders of the tendon are never more rigid, nor in a state of greater stricture, than in those in health, and who are not afflicted with ruptures; and it will invariably be found (except, perhaps, in a very recent descent of a small duplication of intestine) that the diameter of the opening will be more or less dilated; an event which could not possibly happen unless the fibres were preternaturally extended and relaxed. In old ruptures, where the distending force of the hernial contents have gradually dilated the border of the tendon, the opening has been rendered of a very extraordinary size. The term stricture must give a young surgeon the idea either of induration or spasmodic contraction. The fibres of tendons are not so much subject to changes in their texture, but the contents of a hernia are, from a variety of causes, liable to an alteration in their form. By straining, &c. a larger portion of the intestinal canal may be superadded to that already in the tumor, and, until a strangulation commences, the fæces must pass through it. They may be accumulated there; the mere expansion of air will distend the intestine to such a degree that it may press against the border of the tendon and produce uneasiness and pain, and lay the foundation for a strangulation. Whether the contents of an hernia press against the tendon, or the tendon against the tumor, the effects will be precisely the same. But  
very



very different will be the success dependent upon the mode of treatment in this disease. If the surgeon be of opinion that the tendon presses upon the tumor, his chief intention must be to relax it. But if he thinks that the opening is already relaxed or dilated as much as it can be by the disease itself, he will clearly perceive that by reducing the tumor to the same size it was previous to the accession of the symptoms, by condensing the rarefied air, repelling the blood from the distended veins, and pressing the contents of the excluded intestine into the abdomen, he will have the best chance of succeeding in the reduction.

If one plan is founded in reason the other is not. Whatever is calculated to relax stricture must do mischief; and if emollient and warm applications are used to soften the parts, which, at that time, will not dilate any more, they will certainly be pernicious. By increasing the swelling they will eventually increase the stricture; and what was theoretically intended to soften the parts will most effectually contribute to make them harder.

Whenever, in the case of an intestinal hernia, a strangulation is occasioned, the effects will be an obstruction to that progressive motion by which the chyle is gradually propelled down the alimentary canal, and the free circulation of blood through the secluded part of the intestine will be prevented.

From the universal concurrence of the opinions of medical writers, it might be imagined that



nothing could be better established than the propriety of large and repeated bleeding in the early stage of strangulated herniæ: it is a direction from which no exception stands either with regard to age, sex, or constitution.

The intestine is said to be inflamed, and in a part so necessary to life, venæsection to a large amount is held forth as the most necessary remedy.

But it may be suspected that the indiscriminate use of the lancet will, in some cases at least, be pernicious. I have seen it often tried, but never with any success. Amongst the symptoms produced by this disease we are told that a hard, quick, and large pulse is generally occasioned, and that the patient will be found hot and feverish. I will not undertake to prove that this state of the pulse *never* occurs in a strangulated rupture; but in the cases which I have had an opportunity of examining, the patient has generally been in such a situation that I have thought any evacuation by the lancet must have been prejudicial.

The most common appearances produced by an intercepted hernia are the following: The tumor which used to be soft and yielding is hard and painful. The lower part of the abdomen is also more tense than usual; the patient is restless, pale, and languid; *the pulse is low*, and very often (though not always) *slower* than in health; the extremities are covered with a clammy moisture. Respiration is slow, and interrupted with frequent hiccough.



hiccough. Worn out with inquietude, fatigue, and anxiety, the miserable patient cares not to speak, or if he does, he communicates his ideas by broken and incoherent sentences. If the surgeon requires of him the history of his case, he will perhaps tell him, that the day before, while employed in the common avocations of life, he had a pain in his groin, and applying his hand there he found a swelling, which, at some former period had given him trouble, had returned. That he had, as usual, endeavoured with his fingers to put it back without success; that his pain increased, and he was sick; that the night had been passed in the utmost distress. Perhaps, whilst he is thus recounting his melancholy tale, he suddenly throws his hand out for a basin, but before he can reach it the contents of his stomach are discharged upon the bed-clothes.

It may be alleged that I have here described such symptoms as occur after the inflammatory stage is over, and when a gangrene is either threatened or actually formed. But this is by no means the case.

There are no symptoms by which a surgeon can with certainty be assured of the existence of a mortified intestine. The symptoms here described may be present when the parts are mortified or not, as I am convinced by repeated experience. All the appearances may happen from what is called a slight inflammation in the intestine; and



when they have been present in a very small degree only, I have seen the intestine completely gangrenous. It seems to me that what are called the symptoms of a strangulated hernia are not so much produced by the inflammatory or mortified state of the parts, as by that interception of the gut whereby its office of conveying the chyle or fæces is impeded. Soon after this happens, and when the peristaltic motion is inverted, whether the intestine is inflamed or gangrenous, the symptoms will be produced. These symptoms in general are such as indicate immediate debility in the vital powers, and distress and dejection in the animal functions. If the circulation is depressed and weakened by the disease, why should we debilitate more by bleeding? If the arteries of the part affected convey the blood to it with less force than usual, should that force be reduced? But perhaps it may be urged, that in some diseases where the circulation is depressed, bleeding makes it more free, quickens and enlarges the pulse. Admitting this to be a fact, should we encourage an increased circulation in a part already surcharged with blood, whose fluids are hindered in their return to the heart by the resistance they meet with from the borders of the tendon?

Let the cause of the strangulation be what it may, the effects will be an interruption to the vermicular peristaltic motion of the intestine, and an interception of the return of the blood from the



contents of the hernia, the veins being compressed by the tightness of the parts will be swelled, and the contained blood be accumulated. The blood of the arteries will meet with some difficulty in circulating through their minute terminations in the venal system; the vessels, which in a healthy state transmit only the pellucid fluids, will be dilated so as to admit the red particles, and many little extravasations will be occasioned in the cellular membrane. The resistance to the arterial impetus will be every moment increasing, whilst the powers of the heart are lessened by the disease. Hence the circulation is sometimes wholly suspended, and a gangrene very rapidly ensues. Upon dissection the intestine frequently appears red, the very minute vessels are as conspicuous as if they had been filled with an injection by the anatomist. Having this appearance, it is said to be a sufficient proof that the disease had been highly inflammatory, and therefore the use of the lancet had been strongly indicated. Perhaps there is not a more common error in theory, nor any one that furnishes a more fruitful source of mistaken practice, than the supposition that when a part appears *red* it is therefore inflamed. No species of inflammation is much more common than that of the tunica conjunctiva of the eye. It is attended with all the symptoms of inflammation, as pain, heat, tumor, pulsation, and an increased motion of the fluids through the parts affected, or those that are in their immediate



neighbourhood. The tunica conjunctiva, which should appear white, is now universally *red*. Like other inflammations this gives way to an antiphlogistic treatment, and large and repeated bleedings are necessary. But very different is that disease of the same membrane of the eye, where the vessels of the parts are so relaxed as to admit the red particles of the blood (*errore loci*). The eye is in this state *much redder* than in the true inflammation, but the pain and heat are often very trifling, and the method which is found successful in the genuine inflammation will be pernicious in this. The velocity of the blood not being increased in the vessels of the part diseased, it will be in vain to reduce the force of the circulation by bleeding. The experienced practitioner knows that this disease of the eye is only to be cured by stimulating the dilated vessels, and by contracting their diameter till they refuse admission to the particles of red blood. In the strangulated rupture also the secluded portion of the intestine looks red, not because the velocity of the circulation is increased through the vessels of the part affected, but because the venal blood is intercepted in its return to the heart by a cause truly mechanical. The disease itself lessens the velocity of the pulse, and yet the symptoms are increasing progressively; but there does not appear a stronger reason why reducing the force of the circulation will not cure this supposed inflammation, than its continuance after death,



death, some time before which period had taken place no arterial blood could have been propelled into the diseased parts. Dissection also informs us, that very frequently the disease is so truly local that the intercepted part only of the intestine appears of a red colour, or is found in a gangrenous state. It may be remarked also, that those symptoms which are, in a strangulated hernia, said to denote the inflammatory state of the parts affected, exist equally certain in the weak and relaxed habit of body as well as the robust; in those where habitual debility mark relaxed fibres, as in others whose constitutions are subject to phlogistic diathesis. The changes of the body, which are the genuine consequences of death, are often confounded with those appearances that are supposed to denote the diseased state of the parts whilst living. The intestine is often found in herniæ of a red colour, and from thence it is declared to be inflamed; but this appearance may be explained from that interception to the return of the blood occasioned by the border of the tendon; it does not therefore necessarily prove that an inflammation had existed during life, and it is impossible that inflammation can exist in a dead body. When putrefaction is far advanced the intestinal canal generally becomes of a red colour, it may therefore be occasioned by putrefaction or many other causes\*. It has been  
before

\* The ingenious anatomist Mr. *John Hunter* has very judiciously observed, that “an accurate knowledge of the appear-



before remarked that the symptoms attending these cases by no means point out to us, with any certainty, the state of the diseased parts: And I have ventured to declare an opinion, that all, or most of them, are derived from the inverted peristaltic motion of the intestine producing immediate debility, and those other intervening symptoms which, unless timely relieved, usually terminate in death.

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“ances in animal bodies that die a violent death, that is in  
 “perfect health, or in a sound state, ought to be considered as  
 “a necessary foundation for judging of the state of the body in  
 “those that are diseased.

“But as an animal body undergoes changes after death, or  
 “when dead, it has never been sufficiently considered what  
 “those changes are; and till this be done it is impossible we  
 “should judge accurately of the appearances in dead bodies.  
 “The diseases which the living body undergoes (mortification  
 “excepted) are always connected with the living principle, and  
 “are not in the least similar to what may be called diseases or  
 “changes in the dead body: without this knowledge our  
 “judgment of the appearances of dead bodies must often be  
 “very imperfect or very erroneous: we may see appearances  
 “which are natural, and may suppose them to have arisen from  
 “disease; we may see diseased parts, and suppose them in a  
 “natural state; and we may suppose a circumstance to have  
 “existed before death which was really a consequence of it;  
 “or we may imagine it to be a natural change after death when  
 “it was truly a disease of the living body. It is easy to see,  
 “therefore, how a man in this state of ignorance must blunder  
 “when he comes to connect the appearances in a dead body  
 “with the symptoms that were observed in life; and indeed all  
 “the usefulness of opening dead bodies depends upon the  
 “judgment and sagacity with which this sort of comparison is  
 “made.” Phil. Transact. vol. lxii. p. 447, and 448.

The



The dissection of the tumor both in the living and the dead often corroborates this opinion. When the symptoms have been so urgent as to demand the operation for the bubonocoele, it has been sometimes observed, that the intestine has been only of a pale red colour\*, and (what is called) slightly inflamed; and when the disease has proved fatal the same kind of alteration only has sometimes been remarked. In these cases the death of the patient can only be explained by the inverted peristaltic motion having weakened the powers of life, and nothing can be more clearly evident than that large and repeated bleedings, where there is no inflammation to remove, must increase the debility, and therefore do much mischief; and it may fairly be inferred, that as all the symptoms of strangulated herniæ happen with equal violence,

\* “In many cases of strangulated herniæ, where the operation has been the means of relief, although the *very worst* symptoms have subsisted for several days, yet, on laying the parts open, no appearance either of inflammation or gangrene have been detected.” *Bell's System of Surgery*, vol. p. 286.

“In many of those upon whom the operation for the bubonocoele is successfully and timely performed, the intestine seldom bears marks of high inflammation unless the operation has been long delayed; nor do the symptoms of such complaint usually attend afterwards; the mortified part often does not exceed an inch, or an inch and a half, in length, and is almost always confined to that part of the gut which is on the outside of the tendinous opening, all within the belly being found and fair.” *Pott's Works*, quarto edit. p. 286.

whether



whether the parts after death are found inflamed or not, that the fatal termination of this disease cannot be imputed to inflammation; that the red colour of the parts must generally be considered as an accidental circumstance; and when it does occur, it does not seem necessary to have recourse to inflammation to explain it. Numerous, likewise, are the cases which are recorded by the writers of medical observations, in which a small portion of the circular diameter of the gut had been lengthened into pouch, and engaged in a stricture which had proved fatal\*. In these cases, as the whole annular substance of the gut was not protruded from the abdomen, the event can only be explained by supposing that a certain degree of irritation had produced an inversion of the peristaltic motion. As soon as this happens, the vital and natural functions are immediately disordered; from the constant vomitings which ensue no chyle can be absorbed by the lacteals; and superadded to that dejection and languor, which the disease specifically produces, the miserable patient, although he often desires fluids to satisfy his thirst, labours under all the effects of inanition. When an incarcerated hernia is reduced the good effects are sudden and immediate. The tension and pain abate, the

\* *Littre*, *Memoires de l'Acad. de Sciences*, 1700.—*Mery*, *Mem. de l'Acad. des Sciences*, 1700.—*Medical Essays*, *Edinb.* vol. i. p. 183.—*Mr. Amyand*, *Phil. Transact.* No. 443.—*Mr. Elfe*, *Med. Observ. and Enquiries*, vol. iv. p. 334.



patient becomes cheerful; his features, before sunk and pallid, assume a more natural complexion; his pulse, which had been weak and slow, becomes now fuller and stronger. This immediate change can only be explained by supposing that the blood from the furcharged vessels of the part lately intercepted, from a mechanical cause now finds a free return to the heart, and that the peristaltic motion again assumes its natural course. Were the symptoms occasioned by inflammation, the good effects could not have been so sudden, especially when it is considered that, from the time the parts are set at liberty, the blood from the heart rushes upon the diseased part with increased velocity. The tumor pressing upon the lymphatics disturbs their functions, and absorption being thereby prevented, it is not uncommon to see an hernia complicated with the various kinds of hydrocele, and hence also a fluid within the sac is frequently collected. Every part of the intestinal canal is certainly liable to inflammation; and it is possible that the portion of gut lying in an hernial sac may be inflamed also; but this case is very uncommon, and happens chiefly in large old ruptures, where the orifice of the tendon is largely dilated, and where the division of it by the knife would give no relief to the patient \*. The symptoms

\* The celebrated Professor *Richten*, of Gottingen, has divided incarcerated herniæ into three species; the first of these, he



toms of this disease are much like those produced by a strangulated intestine, but they require a very different mode of treatment. The peristaltic motion is inverted in both cases. In the inflammation of the intestine the pulse is often full, and the patient feverish; hence large and repeated bleedings are necessary, with other remedies, for inflammation. The warm bath is often useful, as it often happens that the tendon makes no unusual pressure upon the parts; neither its division, or the reduction of the tumor into the belly, would procure any relief to the disease. My ingenious friend Mr. *Alanfon*, of Liverpool, to whom we are much indebted for improving the operative part of surgery, has, at my request, directed his attention to this point. He informs me, “as to bleeding in  
 “strangulated herniæ, it has been the constant  
 “practice here\* to use this evacuation *ad deli-*  
 “*quium*; to produce which sooner the discharge  
 “has been made by placing the patient in an erect  
 “position. As soon as the deliquium happened

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he says, is occasioned by accumulated fæces within the intestine. He observes that, in large old herniæ, this circumstance is very apt to take place in the protruded portion of the gut, not only from the diminished tone of the part, but also from its being deprived of the expelling power, occasioned by the contraction of the abdominal muscles. As soon as this accumulation happens the hernia increases in size, the belly becomes costive, and at length pain, and the other usual symptoms of a strangulated hernia succeed. *Observ. Chirurg. Dissert. de Herniis.*

\* Liverpool.



“ the taxis was tried during that stage, but I never  
“ saw this method successful, nor do I think bleed-  
“ ing ever of the *smallest service* in forwarding  
“ reduction \*.”

Having reflected much and long upon this subject, I can entertain no doubt that, lessening the small remains of strength which the unfortunate sufferer of a strangulated herniæ has by this absurd practice, is extremely unfavourable for his recovery, should the operation, as will generally be the case if other methods are not more successful, be the only resource. Most of the patients who are brought into public hospitals die after this operation; and upon enquiry (whatever other means have been employed), we are told that they have been *largely* and repeatedly bled.

It very often happens that the opening of the tendon is so much distended, especially in ruptures of long continuance, that the gut does its office of transmitting the fæces in the scrotum, and no great pressure being made against that or the omentum, the circulation of the blood through the prolapsed parts is not interrupted; and people, under such circumstances, pass through life without any great inconvenience from this complaint:—but it should ever be remembered, that, from a variety of causes, the most alarming symptoms may ensue, and therefore a patient having a rupture can, in no possible situation, be said to be secure from danger. Every

\* Vide Case iv.



kind of hernia should, if possible, be immediately reduced, and the parts prevented from receding by a proper bandage. When the reduction of the tumor is difficult, or when uneasiness, pain, or unusual tension of the parts supervene, not a moment should be lost; for the cause and effects of the strangulation co-operate with each other, and the difficulty of returning the intestine, &c. is continually increasing. The first thing usually attempted by the surgeon, if his assistance is had early in the disease, and before great pain or violent tension render it improper, is pressure. By a gradual and well-regulated pressure with his fingers upon the upper part of the tumor, he will very often reduce its size; the contents are, by degrees, pressed through the opening of the muscle, and a speedy reduction is often the consequence. This method will be assisted by the position of the patient's body. Some tendinous fibres of the external oblique muscle run down the anterior and upper part of the spermatic chord, and others communicate with the fascia of the thigh. When the thigh of the affected side is bent, these tendinous fibres will be relaxed and put into a state of non-resistance. The hips should be raised higher than the shoulders, because, in this situation, the intestine may assist in drawing the excluded portion of the gut out of the groin. Or, perhaps, this purpose will be better answered by suspending the patient's legs over the shoulders of a strong man.



man. This method, Mr. *Sharpe* \* tells us, has often succeeded when other attempts for reduction have been ineffectually made. If the surgeon is not sent for, till after the symptoms have made a considerable progress, he should handle the parts with great caution and gentleness. In endeavouring to return the intestine, the pressure should be directed obliquely outward. If the tumor will not give way to pressure, or if the parts are in such a state as, in the opinion of the surgeon, to render the attempt improper, it will then be adviseable to try the effects of cold applications, by which the tumor will often be so much lessened, that a repetition of the pressure (which before had failed) will now be found effectual. I have often observed, after cold applications have been used, that the sensibility of the parts is diminished, and the patient will bear a greater degree of pressure without complaining, which before would have occasioned the most distressing uneasiness. In my cases and remarks in surgery, I have endeavoured to explain the manner in which cold acts upon strangulated herniæ, and repeated experience has amply proved the utility of the practice. I have used and recommended a mixture of vinegar and water for this purpose, but that mixture having been found to possess a less degree of cold than either of them uncombined, I now prefer either vinegar alone, or a solution of crude sal ammoniac

\* *Sharpe's Crit. Enq.* p. 21.



in the coldest water which can be procured. It is observed, that neutral salts, while in the act of solution, produce a remarkable degree of cold, it might therefore be useful to cover the parts first with the powder of crude sal ammoniac, and afterwards apply cold water. By this method I have frequently succeeded in reducing strangulated hernia, and at a period of the case when it was imagined the operation for the bubonocoele had been indispensably necessary\*.

Since the publication of some instances † of the effects of cold in the reduction of strangulated herniæ, I have been, by experience, confirmed in the good opinion I then entertained of this mode of practice ‡.

It frequently happens in mixed ruptures, after the intestine is set at liberty, that the omentum contracts adhesions, and remains ever after irreducible §.

Sometimes after the first trial of cold applications the surgeon is disappointed in his attempts to reduce the prolapsed parts, but a perseverance in the same method will enable him to succeed ||.

After having bathed the part about a quarter of an hour with a solution of crude sal ammoniac in the coldest water which can be procured, the surgeon should endeavour, by a gradual pressure

\* Vide Case v. † See Cases and Remarks in Surgery, p. 13.

‡ Vide Cases vi. vii. viii. and ix.

§ Vide Case xv.

|| Vide Case xvi.



made in the manner before directed, to return the contents of the tumor into the abdomen. If he does not succeed immediately, it will be prudent, before he advises the operation, to wait a few hours, during which time the application of compresses, wetted with the cold solution, should be unremittingly made to the part affected. During this interval also, it will be proper to assist the external endeavours to reduce the size of the tumor, by exciting an increase of the peristaltic motion of the gut, whereby it may be extricated from its confinement, and drawn into the cavity of the abdomen. Surgeons have endeavoured to fulfil this indication in two methods, neither of which can, with much propriety be used, if the symptoms of a strangulated hernia were occasioned by a *true inflammation* of the intestine.

It is an observation as old as the time of *Celsus*, that lenient cathartics increase the size of ruptures, and distend the abdomen. The experience of succeeding ages has found this to be true; and perceiving that those purgatives which sollicit the juices into the intestinal canal without much irritation add to the load, and therefore do mischief, the moderns employ more drastic medicines, with a view to stimulate the intestine into more forcible contractions. In nine cases out of ten it will be found, that whatever cathartic medicines are employed, whether they are mild or irritating, the stomach will reject them, and the inverted peris-



peristaltic motion (should they pass the stomach) will, in general, prevent their having any access to the part affected. However, as something in this way must be attempted, whenever I have not succeeded in the first endeavours, I have generally directed some pills, composed of Venice soap, socotorine aloes, and calomel, which will have a better chance of passing through the stomach than any fluid medicine whatever. From an attention to the symptoms of strangulated herniæ, it should seem that the peristaltic motion of the intestinal canal, *above the imprisoned part*, is inverted, and, below it, totally *suspended*. After the accession of the pain and vomiting, the patient never passes a stool without the assistance of art; if a common glyster is injected, the contents of that part of the canal below the strangulation will, in general, be easily discharged. But this procures no kind of relief. However, as it is probable that stimulating the lower part of the gut will be as likely to extricate the excluded portion as stimulating the upper part, and as stimulants thus used can, with more certainty, be applied nearer the seat of the disease, they may be injected by the anus with a more rational prospect of success. No stimulus has hitherto been used for this purpose, with more advantage, than the fume of tobacco injected into the rectum. So efficacious was this application in the hands of the celebrated *Heister*, that in a very long and a very extensive practice it always succeeded,



succeeded, and he never once had occasion to perform the operation for the bubonocoele. Succeeding practitioners have not been so fortunate: there will be cases where no method hitherto known but the knife will save the life of the patient. The injection of the smoke of tobacco having, in some desperate cases, superseded the necessity of the operation, it should always be tried before that is recommended\*. A common glyster should be given before the smoke of tobacco is used. In several cases of ileus I have seen blisters applied to the abdomen succeed when every other method had failed; and by their stimulus upon the neck of the bladder and rectum the peristaltic motion was (if I may be allowed the expression) re-inverted. Perhaps, upon the same principle, blisters applied upon the belly would be found useful in strangulated herniæ. I have not yet tried this method, and therefore cannot recommend it from experience. The objection to this practice is, that many hours must elapse before the blister can be supposed to irritate the neck of the bladder and rectum, and therefore, before any good can be expected from its use, the patient, by the delay, may be in such a state as to be irrecoverable by any method whatever.

If these methods do not succeed, I think it advisable to try the combined effects of a steady and continued pressure, by the application of

\* Vide Case xv.



metallic substances, and which are of a colder temperature than the parts to which they come in contact. Thus a leaden weight or a plate of iron may be placed on the tumor, the hips of the patient being first raised to an angle of about thirty degrees, or which, perhaps, would better correspond with the form of the tumor, two or three pounds of quicksilver, tied in a strong bladder, might be employed with advantage. After this pressure has been continued a few hours, the surgeon should again endeavour to reduce the contents of the hernia. That this method will succeed when all others that I am acquainted with have been inefficacious I have had proofs, and which, I hope, will induce others to put it to the test of experiment\*. Since the publication of the first edition of these observations, I have had little reason to place much reliance on purgative medicines. Whether administered in a liquid or a solid form, they are so soon rejected by the stomach that there is very little chance of reaching the affected part of the intestine. If they do not, they add to the distress the patient suffers. By means of an injection of an infusion of tobacco a stimulus may, perhaps, be communicated to the seat of the disease, which may assist the pressure necessary to be made. And if it should appear necessary to produce general relaxation, by lessening the action of the system, it may be done more effectually and more immediately by the effects of tobacco, than

\* Vide Cases i. and ii.



by the usual and, I fear, indiscriminate employment of the lancet.

After the reduction of the tumor the symptoms in general immediately abate ; and when it is considered from what a deathlike situation the patient has just escaped, it is really astonishing how very soon he recovers his health and spirits. His pulse is remarkably increased in its strength ; and one might theoretically imagine, that the intestine, loaded as it is with blood, which had distended and burst its vessels, exposed now to a more violent impetus from its arterial blood, must be more subject to the cause of inflammation than before. But experience proves that the symptoms of inflammation are not the consequence. However, should it happen that the pain continues, and any feverish symptoms supervene after the reduction, (a case which I must confess I have never seen,) then bleeding and the antiphlogistic plan of treatment will be clearly indicated. At all events, however, the patient should pay great attention, for some days, to his diet, and be confined to mild liquid aliment ; I have often thought it prudent to direct a solution of castor oil, dissolved with the yolk of an egg, and made into an emulsion with peppermint water, and this has been continued till there have been several stools procured. If the method here recommended has been ineffectually pursued, and the surgeon finds, that, notwithstanding his second attempt to reduce the parts, he does not



ucceed, there seems to be no other chance of recovery but that which the knife will afford.

Chirurgical writers have described that state and degree of the symptoms when the operation for the bubonocoele should be recommended; they have also acquainted us that certain effects are produced by the inflammatory state of the parts, and others as certainly demonstrate a gangrene is either approaching or absolutely formed. Now could these symptoms and these appearances exactly point out the state of the parts composing the tumor, the surgeon would thereby be relieved from much embarrassment. To be convinced of the absolute *necessity* of performing any hazardous operation is a very desirable thing in the practice of surgery. It happens, however, in the cases of strangulated herniæ, that all the rules laid down for this purpose are uncertain and fallacious. Neither the kind nor the duration of the symptoms, whether separately or collectively considered, will, with certainty, point out whether the intestine is in such a state as to give the patient any chance of recovery from the operation. I have performed the operation with success on the eighth day from the commencement of the strangulation, and have seen the most violent symptoms, which had continued several days, disappear after the hernial contents have been returned into the abdomen by cold applications:— and a true mortification of the intestine may be produced in a few hours, attended with such slight symptoms,



symptoms, which could scarcely be supposed to denote that the secluded portion of the gut had received any material injury\*.

As no certainty, therefore, can be derived from the symptoms, relative to the state of the parts within a hernia, the most rational method will be to propose the operation as soon as the attempts which the surgeon has made for the reduction, have been found useless. Whenever it is apparent that no other plan but the operation will succeed, the sooner it is performed the chance of recovery will be greater. In general the operation is deferred too long; and it should always be remembered, that the intestine may be found mortified without any particular symptoms of *inflammation* preceding it.

In the operation it is still a practice, with many surgeons, to draw up the skin before the first incision is made, but this surely must be quite unnecessary to a man used to dissection (and no other should attempt this business). In old ruptures the hernial sac is often much thickened, but in recent descents of intestine the sac is generally thin, and therefore the operator should often examine, with a probe, whether he has divided the sac. We are told that, upon dividing it, a quantity of fluid will rush out; and though this is often the case, it should be remembered, that sometimes the intestine is in contact with the sac, and there-

\* Vide Case xxiii.



fore, unless the latter is divided in the most cautious manner, there must be some danger of wounding the gut \*. The part of the sac most safe to divide is the lowest part; as, in mixt ruptures, the intestine usually occupies the upper part. For some time previous to the operation no pressure should be used, as a fluid is frequently found in the hernial sac which affords a protection to the contents of the tumor, and they might be wounded by the knife if that fluid was pressed into the cavity of the abdomen. When the sac is divided from the upper to the lower part, the surgeon should examine the part which forms the stricture. In many cases I am convinced, by experience, it will not be necessary to divide the tendon of the external oblique muscle. If a finger can be passed under its border, a stricture will often be found an inch higher in the neck of the hernial sac. This

\* A considerable quantity of fluid is sometimes found in the hernial sac. The late Dr. *Monro* relates a case where the quantity of water contained in a sac was six pounds. *Saviard* and *Le Dran* give different cases of this kind. *Heister* calls it hydro-enterocele. Vide *Douglass* on the hydrocele, Mr. *Pott* on the hydrocele. *Monro's Works*, p. 579. In *Bell's System of Surgery*, p. 465, vol. i, are related two cases of this kind, mistaken for hydrocele.

Mr. *Alanson* also informs me, that he has frequently observed a large quantity of fluid within the hernial sac.

This species of hydrocele is particularly described by many surgeons of the present age, and it was also known to the ancients. An account of it is to be found in the writings of *Æginetta*, *Albucasis*, and afterwards of *Fallopious* and others.

stricture



stricture is annular, is sometimes thick and cartilaginous. It may easily be divided by a very slender curved knife with a blunt end; and the cutting edge should extend only a third of an inch from the extremity. The point of this knife may be conducted upon the finger, and insinuated into the contracted part; by a saw-like motion the surgeon will soon divide it, and then, if no adhesions have taken place, which very seldom happens, he will easily return the intestine, &c. into the abdomen\*. In the female sex the hernial sac, in the bubonocoele, is *immediately* under the skin, and on that account the dissection should be conducted in the most guarded manner. If, upon dividing the sac, the omentum presents, it should be carefully unfolded, as a portion of intestine is frequently hid in it.

Should the omentum be diseased it may very safely be removed, as I have found in several instances†. Before any attempts are made to reduce the intestine, the stricture, as it is called, should be divided with the knife. When the superior edge of the tendinous opening of the

\* Vide Cases xviii. xix. xx. and xxi.

† Several cases of bad effects resulting from ligatures upon the omentum are related by Monsieur *Pipelot*, Mem. de l'Acad. Royal de Chirurg. tom. iii. and by Mr. *Pott*, in his Treatise upon Herniæ.

When the contents of the hernia are returned into the abdomen, if the sac is thickened and diseased, it will be advisable to cut off the lateral and anterior parts.

external



external oblique muscle is divided with a probe pointed curved bistory, obliquely outward and upward, the surgeon should endeavour to pass his finger into the abdomen, and if he finds a contraction in the neck of the sac, that also must be divided before any attempts are made to reduce the intestine. Then that part of the gut which is next the abdomen must be returned first, and the operator should press his fingers rather upon the mesentery than the intestine, for experience has proved that when it has been much distended it is very tender, and may be ruptured \*. When it is necessary to remove any part of the omentum there will be no occasion to pass a ligature; but if the surgeon chooses to do it, if he is careful that no part of the intestine is included, it is not probable that any particular inconvenience will arise from it.

In operating for the bubonocoele we have been directed to avoid the epigastric artery, but this caution appears unnecessary, as that vessel is at a distance from those parts which ought to be divided.

In the hernia femoralis, whether the incision of Poupart's ligament is carried outward or inward, there will be danger of wounding either the spermatic or epigastric artery; to avoid these the surgeon should conduct the point of the curved

\* From not attending to these cautions I have twice seen the intestine ruptured when it was not in a gangrenous state.



history upon the point of his fore-finger, and the ligament should be divided upward; and as the tumor, in this case, is not generally large, a small degree of dilatation will, perhaps, be sufficient for the reduction of the intestine. I have also pursued Mr. *Bell's* directions with success, having weakened Poupart's ligament by dividing the external stratum of fibres, which produced sufficient room to return the intestine \*. Mr. *Arnaud* contrived a broad hook to stretch the ligament, which may be tried before recourse is had to the knife †.

If the intestine is found in a mortified state, it will be proper to confine it from receding into the belly, and for this purpose a ligature should be passed through the mesentery, by which it may be connected with one of the sides of the incision.

The writers of medical observations ‡ have recorded many cases where the patient has recovered

\* Vide Case xiv.

† This species of hernia is often hard and small, and being found in the neighbourhood of the lymphatic glands, is sometimes mistaken for a glandular tumor; a very remarkable case of this kind, which terminated fatally, is related by the late Mr. *Elfe*, in the Medical Observations and Enquiries, vol. iv. p. 355.

‡ *Morand*, de la Faye Not. sur *Dionis*, p. 55.—*Mery*, Mem. de l'Acad. des Sciences, 1701.—*Chefelden's* Anatomy, 69. *Le Dran*, Obs. 60.—*Courtial*, Obs. 66.—Med. Essays, Edinb. vol. i. art. 20.—*De la Peyronie*, Mercure de France, Juillet, 1732.—*Ramdobrius*, Commenc. Norimb. 1731.—*De la Peyronie*, sur la Cure des Hernies avec Gangrene.—Mem. de l'Acad. Royale de Chirurg. tom. i. p. 337.—*Dionis*, 352. 354.—*Heister*, 818.—*Bell's* System of Surgery, vol. i. p. 328.

after



after a mortified intestine, but they bear a small proportion to those in whom it has proved fatal\*; indeed this state of the intestine must generally be expected to have a fatal termination if the disease extends within the abdomen. In all those that have escaped, it is probable the gangrene was local and absolutely confined to that part of the gut external to the abdominal aperture.

When the intestine is found in a mortified state, if the patient should be so fortunate as to recover, the diseased portion of the gut must separate from the sound part, and for a considerable time the fæces will be discharged through the wound. We have been informed that in the generality of these cases the fæces must be expelled during the patient's life, but experience has proved that the event is sometimes more fortunate, and that this very disagreeable situation is not necessarily the general result. Let the quantity of the protruded part of the intestine in a rupture be what it may, and should the whole of that portion mortify and slough off, the opening through which it passed is small, and therefore both the ends of the gut must be in contact, or nearly so; and sometimes, also, it fortunately happens, they adhere to the neck of the hernial sac.

\* The celebrated *Rau*, in opening a hernia, finding a gangrene in the parts, laid down his knife, and proceeded no farther in the operation, abandoning his patient, who died the next day. *Heijler's Surgery*, p. 816.



In the process of healing, the wound every day contracts its sides, and, with them, the edges of the intestine approximate, till at length they may either coalesce or unite in such a manner with the cicatrix that the continuation of the canal may be preserved, and the fæces discharged at the anus. The cases which I have seen of recovery from mortified intestine terminated in this manner, and the wounds were completely healed without any succeeding inconvenience\*.

Systematic writers upon herniæ have taken much pains to distinguish them from other diseases; but it must be confessed, that, notwithstanding all their care on this account, the young and inexperienced practitioner will often find himself in a state of uncertainty and embarrassment. And indeed the circumstances are so ambiguous, the relation of the patient so little to be depended on, that the boasted tactus eruditus fails, and the veteran in the profession is obliged to confess the uncertainty of his opinion. In the bubonocoele, the tumor being connected with the spermatic process, subject itself to various tumors and diseases; and the contents of the hernia being often found in contact with the testis, it is no wonder that difficulty should sometimes occur in determining, with accuracy, the exact nature of the case. The encysted hydrocele of the spermatic process may sometimes be confounded with the bubonocoele; and the hernia

\* Vide Cases xxv. xxvi. and xxvii.



congenita may, from the similitude of their appearances, possibly be mistaken for an hydrocele of the tunica vaginalis.

The encysted hydrocele of the spermatic process, like the bubonocoele, occasions a tumor in the groin; it is sometimes also as suddenly produced: By pressing against, or appearing to enter *within* the border of the tendon of the oblique muscle, it will give to the surgeon the idea of communicating with the cavity of the abdomen. A fluctuation of the fluid within is laid down by surgical writers as a distinguishing mark to discriminate the two diseases; but this is, in general, so exceedingly obscure, that very little information is to be obtained. Nor does the history of the disease reflect any great light upon it. In both cases the tumor appears first in the groin, is frequently supposed to be occasioned by blows, or some violent exertions of the body.

If, however, after its first appearance, the tumor is capable of being returned into the abdomen, which a hernia, without strangulation, most generally is, or if the spermatic process can be felt above it, no doubt of its nature can remain\*.

The appearances of the hydrocele and the hernia congenita, are, in many respects, similar. It sometimes happens, that the water in the hydrocele distends the tunica vaginalis, and pressing against the opening of the external oblique muscle pre-

\* Vide Case xxviii.



vents the surgeon from feeling the upper part of the spermatic chord, or its vessels. In the hernia congenita, the contents of the tumor being within the tunica vaginalis, and therefore in contact with the testicle; in both diseases the testis is generally felt in the inferior part of the tumor, but at some distance from the bottom of the scrotum. If the hydrocele has been of long continuance, the tunica vaginalis will be much diseased, and a fluctuation of the contained fluid, of course, less evident. But if the surgeon will attend to a few circumstances he will soon be enabled to clear up the difficulty. The hernia begins in the groin, the tumor is, in general, increased by sneezing or coughing; it frequently descends slowly into the scrotum, and sometimes recedes into the belly. In the hydrocele the enlargement is always first perceived in the inferior part of the tunica vaginalis, and proceeds upward. The spermatic process is often to be felt in a natural state above it, and an experienced examiner will often determine by the touch, that a fluid exists within. There are, likewise, other diseases of the spermatic chord, not hitherto described by chirurgical authors, which may be mistaken for herniæ\*.

A schirrous testis produces an enlargement of that gland, and frequently the disease spreads throughout the whole extent of the spermatic process, occasioning a tumor in the groin, com-

\* Vide Case xxix.



municating with the cavity of the abdomen. To the eye, this disease appears like an old rupture. But the swelling first appearing in the glandular part of the testis, its gradual enlargement, the tumor of the groin being subsequent to that of the testicle; the darting lancinating pain which often accompanies it, the varicose state of the veins of the scrotum when the tumor is large, and which often burst and occasion a profuse hæmorrhage, the upper part of the chord being, in many cases, still to be felt, the resistance and induration of the tumor will, in general, leave no room to doubt the precise nature of the complaint\*. The young practitioner should be on his guard when he is about to give an opinion in these, often, very obscure diseases.

\* Vide Cases xxx. and xxxi.



## A P P E N D I X.

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I am obliged to the Surgeons who attended, for the reports of the circumstances which occurred in the two following cases, previous to the time I saw the Patients.

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### C A S E I.

“ A WOMAN aged thirty-five, had been afflicted  
“ with an inguinal rupture four years. During  
“ this interval, upon any unusual exertion it de-  
“ scended lower, but in a recumbent posture it  
“ generally receded until the month of January  
“ 1800, when, in consequence of a hard labour on  
“ the 12th, it protruded more than before, and  
“ in a few days after became strangulated. Linen  
“ cloths wetted with a solution of muriated am-  
“ monia were applied to the tumor, and she was  
“ directed to take frequently a mixture composed  
“ of castor oil, &c. The next day no evacuations  
“ having been procured, five grains of calomel  
“ were given in a bolus, and some hours after-



“ wards a stimulating cathartic. This also proving  
“ ineffectual, a glyster prepared of the infusion of  
“ tobacco was injected, but without affording relief,  
“ and the bad symptoms increasing, I requested  
“ she would get further assistance, and Dr. Marsh  
“ being consulted, he recommended a warm fo-  
“ mentation which was used with no better success.  
“ On the third day Mr. Rann saw the patient  
“ with Dr. Marsh and myself. It was determined  
“ we should have recourse to cold applications  
“ again, and Mr. Rann proposed applying ice,  
“ which was accordingly done, and continued till  
“ the fourth day. During the last night the pa-  
“ tient had been in a delirious state, and the bad  
“ symptoms still continuing, Mr. Wilmer was de-  
“ fired to see her. J. BARTON.”

Upon examination I found the upper part of the tumor extremely hard, and not yielding in the least to pressure made with my fingers, I was apprehensive that nothing but the operation would afford a chance of recovery. I was desirous first of trying the effects of cold applications combined with continued pressure, and for this purpose placed a two pound leaden weight upon the hernia, the hips of the patient having been first considerably raised. In half an hour attempts were made to reduce it, but though the tumor appeared to be somewhat lessened, they did not at that time succeed. The weight was replaced and ordered to



be continued till our next visit, which was about four hours after; and then the contents of the hernia were without difficulty returned into the abdomen. The bad symptoms by degrees disappeared, and though she has had at times returns of the rupture, has continued free from any symptoms of strangulation.

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## C A S E II.

“ WILLIAM GARNER of this city, aged 42, in  
“ consequence of exertion in unloading a timber  
“ waggon, had a hernia of three years standing,  
“ which had been of little inconvenience to him  
“ till August 11, 1801, on which day he com-  
“ plained of pain in his belly, the intestine became  
“ strangulated, and by his usual endeavours could  
“ not be replaced; he however kept his complaint  
“ secret until the 13th, when Mr. Smalley, in my  
“ absence, saw him, not being able to reduce it  
“ by the taxis he bled him largely, ordered a  
“ tobacco glyster, some calomel and Epsom salts  
“ and crude sal armoniac dissolved in cold water,  
“ to be applied to the part with doubled cloths.  
“ The pain of the abdomen was great, his vomiting  
“ frequent, but his pulse, on the whole, good. I  
“ I saw him in the evening, and found his situation  
“ much the same. He was ordered a bolus with  
“ calomel and opium, and an opening powder with



“ strict injunctions to repeat the cold wet cloths  
“ frequently. In the morning of the 14th he con-  
“ tinued much the same. Having had no stool  
“ another tobacco glyster was administered, which  
“ caused great nausea and faintness, but no eva-  
“ cuation. In the middle of that day you were  
“ so obliging to see him with me, when a cold  
“ smoothing iron was substituted for the wet cloths,  
“ some cathartic pills with opium and a stimulating  
“ glyster were directed. The next morning the  
“ tension and size of the tumor being somewhat  
“ diminished, and the man’s strength apparently  
“ not much lessened, the operation was agreed to  
“ be deferred till some further cause should seem  
“ to demand it. On the 16th, the tumor was still  
“ less, the same remedies were made use of, and  
“ on account of the pain in the abdomen a large  
“ blister was applied there. About midnight I  
“ was called to him on account of the tumor  
“ having disappeared. I found on examination,  
“ no trace of the hernia; the poor man seemed  
“ better, and great hopes were entertained of his  
“ recovery; in less than two hours, however, the  
“ pain of the abdomen returned, and before the  
“ noon of the 17th, he died. J. H. RANN.  
“ *Coventry, April 20, 1802.*”

The day after his death the body was opened by  
Mr. Cook, in presence of Mr. Rann, Mr. Cole,  
and myself.

The



The ileum was much inflamed throughout its whole length, that part of it opposite the orifice of the sac, and which probably had been engaged in it, was examined with minute attention, but it did not appear more discoloured than any other part of the intestine.

The hernial sac was empty, and perfectly free from inflammation, as was the peritoneum lining all the neighbouring parts.

Although this case terminated fatally, the success, as far as it regards the return of the contents of the hernia, was complete, and the following inferences may be deduced from it:

1. That the disease under which the patient laboured was in the first instance enteritis, and that the part of the intestine in the hernial sac being enlarged by inflammation became strangulated.

2. That a considerable pressure may be made by a heavy metallic substance during more than twenty hours upon an inflamed intestine without occasioning gangrene.

3. That the return of the parts was accomplished without producing peritoneal inflammation either in the hernial sac, or adjoining parts, which probably would have been the case if the operation had been performed, and the patient had died.



## C A S E III.

Sept. 1, 1779, MR. HARROLD, surgeon of this city, desired me to visit a man 35 years of age, who had a strangulated hernia. The symptoms had continued three days, the tumor had been fomented, various cathartic medicines and tobacco glysters had been administered without effect. The patient was taken out of bed, and cold water at intervals thrown upon the tumor, which occasioned such a sudden collapse of the parts, that when he was placed in a recumbent posture, the contents of the hernia were easily returned.

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## C A S E IV.

[Communicated by Mr. ALANSON.]

IN the year 1775, a man aged 22, of a robust constitution, was brought into the Infirmary, with a scrotal hernia, somewhat larger than his hand; it extended, and was large up the abdominal ring: he had been afflicted with a small hernia many years, which he had neglected; and this addition to the complaint was occasioned by his straining to lift a heavy weight. Two days had elapsed before I saw him, the tumor was very tense and tender to the touch; he was now *bled ad deliquium*, and that this might take place with more certainty he



he was placed in an erect position: the deliquium happened when he had lost a *quart* of blood. He was now immediately placed in a favorable posture for reduction, and every reasonable attempt to return the contents of the tumor were tried ineffectually, and manual efforts were made, whilst different positions were employed without success. Mr. *Alanson* recovered this man by the knife.

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## C A S E V.

[Communicated by Dr. STORER.]

“ SIR,

“ I can have no doubt that your own practice  
“ must have furnished you with many undeniable  
“ proofs of the utility of the method lately recom-  
“ mended by you in treating incarcerated herniæ.  
“ The cases you have published are conclusive ;  
“ yet, I am persuaded, it will not be disagreeable  
“ to you to be possessed of the following additional  
“ testimony in its favour:—Some weeks since I  
“ was desired to visit the wife of a butcher in this  
“ town, who had, for many years, been subject to  
“ a hernia inguinalis of the right side, which she  
“ was in use to reduce herself, and was in general  
“ supported by a truss of her own contrivance. I



“ found her labouring under all the symptoms of  
“ strangulated hernia in the most extreme degree.  
“ She had violent pains extending from the part  
“ toward the region of the stomach, and through  
“ the whole abdomen, which was tense and sore to  
“ the touch; frequent vomiting of foetid matter,  
“ and obstinate costiveness. The tumor itself was  
“ harder than I had ever seen in similar cases, and  
“ so sore, from the frequent attempts which the  
“ surgeon had made to reduce it, that it was  
“ necessary to avoid all further handling of the  
“ parts. She had already been upwards of fifty  
“ hours in this state. Warm fomentations, emol-  
“ lient poultices, and the general remedies com-  
“ monly in use, had proved ineffectual. In this  
“ situation, before proposing the operation for the  
“ bubonocoele, which, but for your method, I  
“ should have done immediately, I resolved to  
“ give a trial to cold applications, and in order to  
“ aid that collapse of vessels by which, I presumed,  
“ they were to operate, I directed bleeding to be  
“ *repeated* to such amount as I thought my patient  
“ still able to bear. After this thick compresses  
“ of linen, dipt in vinegar and water cold, were  
“ to be applied to the tumor, and frequently  
“ repeated. The bleeding procured no relief; a  
“ purgative glyster which had been injected, re-  
“ turned without effect. But, happily, after the  
“ application of the fourth compress, the tumor  
“ suddenly and *spontaneously* returned into the  
“ abdomen.



“ abdomen. The pain and vomiting soon ceased,  
 “ and a gentle laxative next day restored her to a  
 “ perfect state of health, which she still enjoys.

“ I am so entirely satisfied that the good effects in  
 “ this case were solely owing to the cold applica-  
 “ tion, that I am resolved upon every future  
 “ occasion to have recourse to it.

“ As there is good reason to believe that appli-  
 “ cations will operate with more or less power, in  
 “ proportion to their coldness, and we know that  
 “ artificial cold may be produced when there is no  
 “ snow, I thought it worth while to determine,  
 “ with exactness, what mixtures or solutions might  
 “ be employed with the greatest prospect of  
 “ success, in case water of the common tempera-  
 “ ture should fail. The result of these trials made  
 “ in an airy room, without fire, and with a pocket  
 “ thermometer, graduated to *Fahrenheit's* scale,  
 “ was as follows:

“ Air in the room	-	-	57°
“ Simple water	-	-	49
“ Vinegar and water, equal parts	-		50
“ Saturated solution of crude sal ammoniac			
“ in simple water	-	-	42
“ Solution of sal ammoniac in vinegar and			
“ water	-	-	45½
“ Solution of nitre in simple water	-		43
————— in vinegar and water			46
“ Solution of sea salt in simple water	-		46
————— in vinegar and water			50

“ These



“ These solutions, though they gradually ap-  
 “ proached to the temperature of the air in the  
 “ room, preserved their relative degrees of heat  
 “ for a full hour after the experiments were made.  
 “ From the result it appears, that a saturated solu-  
 “ tion of crude sal ammoniac in simple water, as  
 “ producing the greatest degree of cold, is the  
 “ best adapted to the purpose in question; and  
 “ though it may be proper to use it fresh dissolved,  
 “ I have observed that, except it be kept in a  
 “ very warm room, it preserves longer its lower  
 “ temperature than other fluids; a property upon  
 “ which its efficacy, as a discutient, not impro-  
 “ bably depends. I cannot account for all the  
 “ mixtures into which vinegar entered, being the  
 “ hottest, I can only say, that it was the reverse of  
 “ what I expected.

“ I am, &c. &c. &c. JOHN STORER.  
 “ *Grantham, 13th of May 1780.*”

## CASES VI. VII. VIII. and IX.

[Communicated by Mr. ALANSON.]

“ I have met with three cases of strangulated  
 “ herniæ since I wrote to you last; they had been  
 “ mismanaged, that is, the patients had been  
 “ poulticed, fomented, or had taken strong purges.  
 “ They were all easily reduced by cold appli-  
 “ cations, and afterwards the assistance of the  
 “ hands.



“ hands. I am clearly of opinion that when re-  
“ duction can be accomplished without the opera-  
“ tion, cold is the best preparative and assistant we  
“ can employ; that more cases will yield to this  
“ application and the tobacco glyster than to  
“ every other means. That when warm fomen-  
“ tations and poultices have been used unsucces-  
“ fully, assisted by bleeding, the warm bath,  
“ common glysters and purgatives, which are the  
“ means still employed by some surgeons, we may  
“ frequently succeed by the application of cold.  
“ This seems to have a peculiar property of allay-  
“ ing the tenderness of the parts, of diminishing  
“ the bulk of the tumor, and enables us to apply  
“ the taxis in cases which, before this application,  
“ would not admit of the least assistance in this  
“ way. I have heard of two cases in which cold  
“ applications have been found successful; in the  
“ first, the patient's case was so deplorable that he  
“ was placed on the table with a view to the  
“ knife; the other happened in Lancaster, to  
“ which Mr. *Baxendale*, a late pupil of mine, was  
“ called, and succeeded by cold applications. The  
“ following case which I have received from Mr.  
“ *Blundell*, surgeon of this place, will, I doubt not,  
“ give you pleasure:—August 4, 1784, I was  
“ desired, about eleven in the forenoon, to see a  
“ poor man, aged 53 years, who had been labour-  
“ ing under a strangulated hernia since three days  
“ before. At my arrival the account I received  
“ was,



“ was, that he had been visited by another gentle-  
“ man about seven o’clock the preceding evening ;  
“ that most of the ordinary means in these cases  
“ had been made use of, such as *bleeding ad deli-*  
“ *quium*, castor oil, glysters, warm bath, fomenta-  
“ tions, &c. without effect, and afterwards re-  
“ peated in the morning to as little purpose.  
“ Fearing the ill consequences that were likely to  
“ follow any further attempts in the same way, on  
“ account of the particular tender state of the  
“ parts, I altered the plan from the warm to the  
“ cold applications, viz. by pouring large basons  
“ full of cold water upon the part till it began to  
“ lose its chilling effect, which was in about three  
“ quarters of an hour. This method answered my  
“ most sanguine expectations, not only in very  
“ considerably diminishing the bulk of the tumor,  
“ but likewise by enabling me to handle it without  
“ the smallest inconvenience, which just before he  
“ was scarcely capable of bearing the weight of  
“ my hand. I now put in practice the common  
“ means by the hand, which are generally made  
“ use of in these cases, and was so fortunate, in  
“ about two hours, to effect my purpose, which I  
“ must in a great measure ascribe to the very good  
“ effects the cold had upon it.”

CASE



## C A S E X.

May 28, 1787, I was called upon by Mr. *Freer*, surgeon of this city, to visit Mr. *W—*, who had a strangulated rupture. The descent happened two days before, since which time he had had no stool. The symptoms were a foreness of the abdomen, hiccough, a frequent rejection of the contents of the stomach, great prostration of strength, thirst, brown tongue, an anxious despondency in his countenance, and his *pulse weak, and remarkably slow*. At nine o'clock in the morning we directed compresses to be applied to the part affected, and frequently renewed, dipped in the coldest water that could be procured, in a quart of which was dissolved an ounce of crude sal ammoniac. Pills of extractum catharticum calomel and opium, were given every hour, and a glyster was injected, composed of an infusion of two drachms of the leaves of tobacco in eight ounces of water. At twelve o'clock I visited him again. The tumor was reduced in its dimensions; his countenance had resumed its natural appearance; he had lately passed a stool, and believed he should soon have another. Although the tumor was smaller and softer, it was found, upon trial, to be irreducible. The cold applications were continued, and another injection was ordered. At eight o'clock in the evening he was much in the same state as before.

The



The hiccough was more frequent; and the attempts that were then made to return the contents of the hernia were as ineffectual as before. Ordered a draught, containing thirty drops of tinctura thebaica.

At six o'clock the next morning we found no material change. The cold application and pills were continued. At nine in the evening the patient was free from danger. The hiccough, we were told, had been troublesome the greatest part of the day; that about an hour before we saw him he had desired some sago, after which he vomited violently; and he then perceived the rupture was reduced, which, upon examination, we found to be the case. This tumor appeared to be an entero-epiplocele. The intestine was reduced the first day of our attendance, when most of the bad symptoms left him. The hiccough was occasioned by the imprisoned omentum, which, by the violent contraction of the stomach in vomiting, was at length disengaged.

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### C A S E XI.

December 1, 1774, I visited the Rev. Mr. K—— in Leicestershire. He had then the usual symptoms of strangulated hernia. A tumor in the groin had two days before been suddenly increased. Nothing had passed through the intestinal canal since



since this accession to the contents of the hernia. He vomited and hiccoughed often, had great pain in the tumor as well as in the hypogastric region, and his pulse was extremely low and weak. Mr. *Jervis*, surgeon, of Lutterworth, had attended him from the beginning, and, after having employed tobacco glysters, fomentations, &c. made several attempts to reduce the parts without success.

Mr. *Jervis* proposed to our consideration the operation for the bubonocoele. It was first agreed to try the effects of cold applications. The weather was severe at this time: compresses of linen, dipped in cold vinegar, were applied to the tumor, and as often as they became warm were removed, and fresh ones used in their place. The patient was soon sensible of a retraction of the parts within the hernia, and we could quickly after perceive that the tension and induration of the tumor were considerably diminished. Upon attempting then to reduce the intestine with the fingers, the air contained within was observed to move first, and soon after, all the contents of the hernia were returned into the cavity of the abdomen with the greatest ease.



## C A S E XII.

September 27, 1775, I was sent for to Mrs. M——, of Withybrook, in the county of Warwick, to advise with her surgeon concerning the necessity of performing the operation for the bubo-nocle.

The tumor was small and painful: she had been ill three days: her pulse was quick and weak: her tongue covered with a brown mucus: she vomited often, was costive, and much fatigued with a hiccough. She had been bled, clysters had been repeatedly injected, warm fomentations had been applied, and endeavours frequently made to reduce the hernia, but without the desired effect.

By means of compresses wetted with vinegar applied cold, and by gently pressing the parts with my fingers, in a short time the contents of the hernia were completely reduced, and the patient soon recovered.

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C A S E XIII.

October 1, 1776, I was called to J. D. of Stoke, near this city, labouring under a strangulated rupture, I directed cold applications, and endeavoured to return the intestine, but could not succeed at that time. The compresses were directed



rected to be continued and frequently changed during the ensuing night. Before the morning the contents of the hernia had spontaneously receded into the abdomen.

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#### C A S E XIV.

February 4, 1777, the late Mr. *Harrold*, surgeon, of this city, desired me to see a patient with him who had a femoral hernia in a state of strangulation. He had been bled, and to the tumor warm fomentations had been applied. He had no passage through the intestinal canal during three days, and vomited every thing he took. Cold water having been applied to the tumor during half an hour, the contents of the hernia were then easily returned into the belly.

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#### C A S E XV.

A gentleman had for some years been subject to a bubonocoele, the descents of which were always preceded by a retraction of the testicle on that side into the groin. He perceived this one day when he was riding on horseback, and finding the rupture was down, he made an immediate attempt to reduce it, by placing himself on his back, but without success. It became painful, and a strangulation



lation ensued. Mr. *Bucknell*, surgeon of Rugby, was called upon to assist him, and who tried several methods to relieve him, but without success. February 23, 1786, I was desired to attend him with Mr. *Bucknell*. The tumor was hard and painful. Saltpetre dissolved in water was applied cold to the part, and the smoke of tobacco was ordered to be injected into the rectum. In the evening there was no other change than that the tumor was less painful. The tobacco smoke had not been applied, the necessary apparatus for which not being procured before this time. It was now tried, and before it had been used half a minute, the patient called for the close-stool, had an evacuation, which relieved all the symptoms: part of the tumor had receded into the belly, but the rest was in the scrotum, and has remained ever since irreducible.

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## C A S E XVI.

September 19, 1787, I was desired to meet Mr. *Williams*, a surgeon of Rugby, at Woodscott, in the county of Warwick. The patient was a middle-aged man, with a crural hernia on the left side. He had laboured under the symptoms of strangulation eight and forty hours; and during the whole of the preceding day, had been under the immediate care of Mr. *Williams*. Cold was applied to the part during the whole of that day, and



and attempts made by the hand for reduction without success. Mr. *Williams* ordered the continuance of it during the night; and when we visited the patient together in the morning, there was nothing to be done but to order a truss, the rupture having been spontaneously reduced some hours before we arrived.

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## C A S E XVII.

I was sent for to Leicester to consult with Dr. *Kerr*, of Northampton, in the case of a lady who had a strangulated exomphalus. Every attempt had been made during the two preceding days to effect a return of the prolapsed parts. Cold applications had been, during the greatest part of the time, applied in vain; but these being continued, a reduction of the contents of the tumor had taken place some hours before our arrival.

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## C A S E XVIII.

A man, aged about thirty, who had been subject at times to a hernia during many years, complained of violent pain about the umbilical region, attended with costiveness and vomiting. The swelling could not as usual be reduced by pressure. Having, ineffectually, tried the modes usually had



recourse to in these cases, and having had no better success from cold applications, I requested the assistance of Mr. *Harrold*. The operation was agreed upon. After I had laid open the sac, and divided the border of the tendon, I cut off a large quantity of diseased omentum; there was a fold of intestine which could not, on account of *supposed* adhesions, be returned. As this was the first operation of the kind I had then been engaged in, and being taught to believe that strictures in the neck of the sac were not to be met with, the wound was dressed in the usual way, and twelve hours after the patient died.

Upon dissection of the part a small duplicature of the ileum was found so strongly embraced by the neck of the sac that it could not be disengaged till the stricture was divided by the knife. The part forming the stricture being hard, firm, and thickened.

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#### C A S E XIX.

April 3, 1774, J. C. of this city complained of pain in the inferior part of the abdomen, which was followed by vomiting and costiveness.

On the third day of his illness I first saw him, and was informed that he had a swelling in his left groin, which was then become painful; and that various methods had been ineffectually tried for his relief. After having used cold applications to the  
part,



part, I endeavoured to procure a reduction of the hernial contents but without success.

The patient was reduced much, and the symptoms had made an alarming progress, I therefore desired a consultation might be had. In the afternoon of the third day, Dr. *Simson* and Mr. *Harrold* joined me in opinion that the operation for the bubonocoele could not any longer be prudently delayed. After the hernial sac was opened, and the tendon of the external muscle divided, it was found impossible to return the intestine into the cavity of the belly. The part prolapsed appeared to be a duplicature of the ileum extremely inflamed, with many little extravasations of blood between its coats.

I passed my finger within the sac and perceived a stricture in its neck an inch higher than the opening of the tendon, which forcibly resisted the return of the intestine.

Having secured the intestine with my finger, I with some difficulty forced the obtuse point of the curved knife through the stricture and divided it. The intestine was then easily returned, and the patient recovered perfect health without the intervention of any particular occurrence.



## C A S E XX.

August 14, 1779, I was desired to visit *T. W.* a strong middle-aged man at Radford, a village near this city. I found him complaining of great pain in his belly. His countenance had a melancholy aspect; he had been sick, and his pulse was much weaker and slower than natural. He informed me that he had a rupture from his infancy, which had heretofore given him no uneasiness; that it very often descended in the day when he was at work, and as often returned, without any assistance, when he was in bed. During a considerable period, however, before he had occasion for my assistance, the contents of the rupture had remained in his belly; until the preceding day, when, having exerted himself at a laborious employment, he felt the swelling suddenly return, and pain and uneasiness immediately ensued. Upon examining the parts I found the tumor occupied the right side of the scrotum, and the testicle was not to be perceived below it. The tumor was hard and painful. Having placed him in a proper position, I made some attempts to reduce the hernia, but without success. Cold applications were directed to be applied to the part, the smoke of tobacco to be injected into the rectum, and some pills of extractum catharticum, opium, and calomel were directed to be taken every hour.

August



August 15. The bad symptoms were much increased; the night had been passed with much inquietude. No passage by the anus. The tension of the groin and abdomen were undiminished. The powers of life were weaker. The circulation was languid; he was frequently affected with hic-cough, and he vomited often. Endeavours were again used, after the application of cold to the tumor, to effect a reduction; but all attempts of this kind were as fruitless as before, and appeared only to increase his pain. In consultation with Mr. Harrold, a very eminent surgeon of this place, the operation appeared to us the only chance for life; it was therefore done immediately. After I had divided the hernial sac from the edge of the abdominal tendon, to the inferior part of the scrotum, a considerable quantity of diseased omentum appeared in view; it did not adhere in any point. When the omentum was turned off from the lower part of the scrotum, the tunica albuginea of the testis appeared in view. The omentum being expended at its upper part, next the border of the tendon, a small duplicature of intestine *of a red colour* appeared inclosed in it. The omentum was so much thickened and diseased, that it was thought improper for reduction: we therefore cut it off. The tendon of the external oblique muscle was then divided obliquely outward. And although this dilatation was largely made, we could not



return the prolapsed intestine into the abdomen. Passing my finger within the neck of the hernial sac, I discovered at its orifice, at least an inch higher than the border of the external tendon, a circular stricture, which prevented the return of the parts. I conveyed the point of a curved bistoury on the inside of the fore finger of my left hand, and divided it; after which the intestine was reduced with much ease. After the operation he was ordered to take an opiate, and to observe great attention in his diet.

August 16. The patient was much relieved in all respects; his pain was almost gone, the tension of the belly much diminished. The vomiting ceased, and he had in the night two stools. From this time he continued to mend, the wound digested kindly, and, in the space of a month, was entirely healed. The practical information obtained from this case is, that in the operation for the bubonocoele the surgeon should carefully examine the neck of the hernial sac after he has divided the tendon, and before he removes the omentum (if the state he finds it in makes it necessary) he should be careful that he does not injure any part of the intestine which may happen to be engaged in it.



## C A S E XXI.

Mr. *Jervis*, of Lutterworth, requested me to visit a patient with him in that neighbourhood who had a strangulated hernia, the symptoms of which had continued three days. Mr. *Jervis* had employed the usual methods for reduction without success. We agreed upon the operation; and as the man appeared in a very dangerous state, it was performed in the middle of the night.

The tumor extended to the lower part of the scrotum; it consisted of a fold of the ileum of a dark colour, and a considerable quantity of diseased omentum. I dilated the border of the tendon, cut off the protruding part of the omentum, but could not then return the intestine. Passing my finger higher I perceived a stricture in the *neck of the sac*, and with a slender probe-pointed knife divided it. The patient had an evacuation by the bowels soon after, and in a short time recovered.

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C A S E XXII.

June 26, 1799, I was desired to meet Dr. *Lambe* and Mr. *Blenkinsop*, surgeon at Warwick, in a case of femoral hernia. The patient was an elderly woman; the symptoms had continued several days. The tumor was very small and hard; it appeared like an indurated gland, and  
was



was situated under Poupart's ligament. Every rational attempt, assisted with cold applications, had been made to reduce the intestine, but without success; and there seemed to be no other chance than that which the operation allowed. But the patient was so reduced, her pulse so weak, and the general aspect of the case so discouraging, that I thought it would only accelerate her dissolution, and therefore declined it. The body was opened by Mr. *Blenkinsop* in the presence of Dr. *Lambe*. The protruded part of the gut was a small fold of the ileum of a dark purple colour, and so universally adherent to the hernial sac, that it would have been impossible to divide one with the knife without injuring the other.

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## C A S E XXIII.

November 10, 1780, I was sent for to consult with Mr. *Barker*, an eminent and ingenious surgeon at Colehill, in the case of a man about fifty years of age, of a good habit of body. I was acquainted that he, some years before, had a rupture, which he had often reduced himself, but that its return became at one time difficult, and the swelling giving him pain, he had recourse to Mr. *Barker's* assistance, who relieved him, and reduced the rupture. After this time no descent happened till the day before I visited him. He was then digging



ging in his garden, and he perceived a return of his old complaint. He went to bed, and endeavoured to push the swelling up as usual, but he could not succeed, and the attempt gave him uneasiness. He applied to Mr. *Barker*, who endeavoured by various means to procure a return of the hernial contents without success. Upon examination I found the tumor extremely hard, the patient had some uneasiness in the abdomen, and now and then appeared sick. His pulse was also in force and velocity below the healthy standard. Exclusive of these symptoms there were no other appearances that denoted danger, either immediate or remote. We bathed the tumor well with a solution of crude sal ammoniac in cold water; after which Mr. *Barker* and myself made frequent attempts, by manual assistance, to pass the contents through the opening of the oblique muscle, but without success. Disappointed in these endeavours, and unwilling to leave the patient, who lived a considerable distance from me, in a state of insecurity, with his surgeon's approbation I proposed the operation. It was immediately performed. The intestine was found black and completely gangrenous, and the patient died the succeeding night.



## C A S E XXIV.

Mrs. ——— of Colehill, had for a considerable period a small tumor in the upper part of the thigh, which in a recumbent posture disappeared. The swelling became at length fixed and painful; costiveness, vomiting, &c. ensued. Mr. *Barker* had taken every proper method to reduce the contents of the hernia. Tobacco glysters had been injected, and cold applications almost constantly used. On the *eighth day* from the commencement of the symptoms of strangulation, she consented to the operation. After the hernial sac was opened, a small portion of intestine appeared in view, I endeavoured to return it without dividing Poupert's ligament, but it bore so hard upon it that I could not succeed. To prevent any danger of wounding the epigastric artery, I weakened the ligament by dividing only the external fibres by slight incisions, in the manner recommended by Mr. *Bell*, the intestine was then easily returned, and the patient soon after recovered a perfect state of health.

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## C A S E XXV.

June 21, 1771, I was desired to visit Mrs. S——, of this city, aged seven and forty. A few days before she had been seized with symptoms  
of



of colic, which she had been subject to. She was much reduced, vomited often, complained of pain in the abdomen, her pulse intermitted, and, upon the whole, the case appeared extremely dangerous. She informed me that she had a rupture at the navel, which, on examination, was found tense, and a livid slough, of the size of a shilling, occupied the centre of the tumor. Dr. *Simson*, an eminent physician of this city, directed such internal remedies as the case seemed to require, and to the tumor was applied a warm antiseptic fomentation.

22d. The patient was nearly in the same state as on the preceding day, only the slough had extended its dimensions, and was beginning to separate at its inferior border. The same plan was pursued.

24th. The slough was more separated, and a large quantity of fæces discharged through the opening. The fomentation was constantly applied.

26th. The slough came away, the opening large, and a portion of the annular substance of the intestine, of considerable extent, discharged also; the patient was now much relieved in all respects.

30th. Continued to mend; discharge of fæces continued through the opening, which was much contracted, and the tumor almost gone. The stools began to be discharged by the rectum.

From this period the wound contracted every day, the discharge of the fæces through it lessened gradually,



gradually, and in six weeks it was perfectly cicatrized. During the cure great attention was paid to keep the fore as clean as possible; and a diet, consisting of broths, &c. which yielded the smallest quantity of fæces, was strictly attended to. Mrs. S——, after this case happened, lived six years, and then died of pulmonary complaint.

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### C A S E XXVI.

August 20, 1779, I was desired to visit Mr. P——, a farmer at Barnacle, in the county of Warwick. I discovered two openings in the groin, just below Poupart's ligament, through which the fæces were daily discharged. Some weeks before the time I visited him, he had symptoms of strangulated hernia, for which he had been attended by a surgeon in his neighbourhood; the tumor in the groin burst, and a large discharge of excrementitious matter had ensued, by which he was much relieved. I enjoined him to keep in bed, to lie on his back, applied some lint and sticking plaster over the sores, with a compress and bandage. Every morning a glyster was injected to solicit the fæces by the rectum, and his diet consisted of nourishing broths, &c. By pursuing this plan the sores gradually contracted; in the space of seven weeks they were entirely healed, and no particular inconvenience succeeded.

CASE



## C A S E XXVII.

[Communicated by Mr. ALANSON.]

“ In the month of July 1779, I was called to a  
“ patient in a neighbouring village. She was a  
“ healthy woman, about forty years old; she com-  
“ plained of a tumor, which was about the size of  
“ a hen’s egg, in her groin; she could not tell  
“ exactly how long she had been afflicted with it,  
“ but did not consider it as a complaint of any  
“ consequence. It became painful and tender to  
“ the touch, and she was seized with pain, vomit-  
“ ing, and costiveness. Application was made to  
“ a medical person, who treated the tumor as an  
“ abscess, and informed her it would come to  
“ matter: he assiduously gave her medicines as  
“ though she had the iliac passion. She went on  
“ under the symptoms of a strangulated hernia  
“ eleven days, her disorder not being understood  
“ or properly treated. Dr. *Binns* was now called:  
“ he immediately made her friends acquainted with  
“ the real state of the business, and desired a sur-  
“ geon might be called. I was sent for, and she  
“ fell jointly under our care. Her pulse, tongue,  
“ and general aspect resembled that of a patient in  
“ the last stage of a putrid fever, and she appeared  
“ as if she had but a short time to live; she  
“ faltered in her speech, and seemed nearly  
“ exhausted. Her belly was exceedingly hard to



“ the touch, and enlarged ; she was constantly  
“ vomiting up most offensive fœcal matter ; the  
“ tumor retained the marks of having been highly  
“ inflamed, and its centre, for about the size of a  
“ shilling, was a gangrenous slough. Without any  
“ hopes of success I divided the eschar, and con-  
“ tinued the incision the whole length of the tumor,  
“ with a view to discharge the contents of the in-  
“ testines, and give her some ease, by removing  
“ the tension of the belly. A prodigious quantity  
“ of fœcal matter and wind was discharged, so  
“ offensive that no person could for some time  
“ bear to remain in the room. Poultices of  
“ carrots, and antiseptic washes, and fomentations  
“ were directed to the part, and saline draughts in  
“ the effervescent state inwardly. In short, the  
“ patient daily recovered. She was allowed a  
“ liquid nutritious diet : this, nearly as soon as  
“ taken into the stomach, passed through the  
“ wound unaltered. She was directed, therefore,  
“ to take only a little at a time, and to repeat it  
“ frequently ; and restorative glysters of milk and  
“ broth were frequently injected into the rectum.  
“ The internal surface of the wound appeared for  
“ some time a confused, putrid, sloughy mass ;  
“ however, in eight or ten days, the anterior part  
“ of the hernial sac, with the whole anterior sur-  
“ face, and the whole of the peritoneal coat of the  
“ protruded intestine separated, having the mus-  
“ cular fibres more clear and distinct than could  
“ have



“ have been done by an accurate dissection. The  
“ fœces discharged through an aperture which lay  
“ where the fold of the intestine was in contact,  
“ and close to the abdominal ring. It was curious  
“ to observe the constant peristaltic motion of the  
“ protruded intestine, which had a continual and  
“ vermicular motion like that of a crawling worm.  
“ In about three weeks some part of the fœces first  
“ began to go past the wounded intestine, and she  
“ had a discharge *per anum*: this daily increased,  
“ and diminished at the wound, till the opening of  
“ the intestine totally closed. A difficulty, ap-  
“ parently, of considerable importance took place;  
“ the wound daily contracted, and consequently  
“ drew the folded intestine together, or, in other  
“ words, the cavity in which it lay became so  
“ small, that we were fearful it would be strangu-  
“ lated in the wound, and the extremity of the fold  
“ was pushed considerably above the surface of the  
“ skin. On maturely considering the case we  
“ thought it most prudent to let nature have her  
“ way, and go as far as she was able towards com-  
“ pleting the cure before we called in the assistance  
“ of art. When the part was completely healed  
“ and closed, so that only a cavity, large enough  
“ to contain the intestine, projecting above the  
“ surface, remained, we had thoughts of applying  
“ a moderate pressure by a lead weight, properly  
“ adapted to force the intestine within the limits of  
“ the wound, keeping the body in an horizontal  
“ position :



“ position: this proposal was debated when the  
“ patient was present. At our next visit we found,  
“ what we had not resolution to attempt, had been  
“ successfully done by our patient: she applied a  
“ three pound lead weight over compresses, pro-  
“ perly adapted to the wound, and by this means,  
“ without the smallest degree of pain or danger,  
“ reduced and retained the intestine below the  
“ skin, which had now an opportunity of forming  
“ over the wound, which agreeable event soon  
“ took place, and the patient’s general health  
“ completely returned. She remains at this day  
“ perfectly well, and has been able to use very  
“ laborious exercise, by which she earns her live-  
“ lihood.”

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#### C A S E XXVIII.

January 3, 1783, a gentleman, about twenty-five years of age, applied to me on account of a rupture he had in the right groin. A considerable time before, he had a small swelling in that part, and he acquainted me that he had applied to an eminent surgeon of London, who had procured a truss for him; that sometime after he had used it, he perceived his rupture return, and the next morning the swelling was increased to four times its usual size. When I examined the part I perceived the spermatic process occupied by a large  
tumor,



tumor, which seemed to extend under the tendon of the external oblique muscle. It had much the appearance of a hernia, and it gave to the fingers the same kind of sensation which an intestinal rupture generally does. The tumor was manifestly affected by sneezing and coughing: it was found, upon trial, irreducible, and the attempts made to return it, produced pain and uneasiness. No symptoms of strangulation appeared; the patient had stools, and was neither sick nor very much indisposed. His business required him to go to London, I therefore advised him, for the present, to lay aside the truss, and to apply a common suspensory bandage. When he was in London he consulted Mr. *Sharpe*, who, having very diligently examined the state of the tumor, and suspecting a fluid within it, made a small puncture, through which a considerable quantity of watery fluid was discharged. The fulness of the spermatic process immediately subsided, but the small swelling which originally appeared in the groin, was still perceptible. This was by pressure reduced, and a proper elastic truss being applied, retained it within the abdomen.

It appears from the preceding history, that a small descent of intestine was, in this case, complicated with an hydrocele of the spermatic chord, and that the latter was probably occasioned by the pressure of the truss, which had bruised or ruptured the lymphatics of that process.



## C A S E XXIX.

April 10, 1778, I was sent for to Rugby, in the county of Warwick, to consult with an eminent physician and a surgeon, in the case of an elderly gentleman who, as I was informed by letter, had a strangulated rupture. I found him in a weak state in bed; the whole spermatic process was occupied by a tumor which pressed against or passed under the tendon of the external muscle. The tumor throughout its whole extent was tense and painful wherever I pressed my fingers against it; and had all the external appearance of an hernia. But had it been an hernia, and in an inflamed state, it was natural to suppose that symptoms of a strangulated intestine, or diseased omentum, must have been produced. He had neither hiccough, vomiting, nausea, costiveness, or any symptom indicating strangulation. He had a natural stool every day during his confinement: the parts were in constant pain, and he was feverish. I was acquainted, that many years before, he had a rupture, and wishing to conceal it from his friends, had undertaken a journey to London, where the tumor was reduced, and a truss applied; after the application of which the parts remained in their natural state; that about a fortnight before, his truss being worn out, he ordered another to be made under his own direction, and soon after he had applied it, he felt pain



and uneasiness in the part, which had continued and increased. The pad of the truss, upon examination, was found as hard as a tennis ball. It was agreed that he should lose some blood at the arm, take cooling and saline medicines, and be treated in the antiphlogistic manner. Upon visiting my patient two days afterward, I found a dark coloured slough beginning to form upon the part, against which the pad of the truss had pressed. He complained of much pain, uneasiness, and difficulty in the passing of his urine. In about a week from the time I first saw him he died.

In this case no doubt can be entertained but that the pressure of the hard pad of the truss, ill made, and injudiciously applied, occasioned a contusion of the spermatic process, which, inflaming, terminated in a gangrene; and it is probable, also, from the symptoms, that the disease accompanied the vas deferens in its way to the posterior part of the bladder, and occasioned the painful and difficult discharge of urine.

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### C A S E XXX.

September 13, 1783, Mr. *Harrold*, surgeon of this city, desired me to visit an elderly man with him, who had many pressing symptoms of a strangulated hernia. We found the groin and right side of the scrotum occupied by an oblong tumor,



which, upon examination, was discovered to be hard and unequal in its surface. Upon pressing the part, or the inferior region of the abdomen, the patient complained of much soreness; he had a dejected countenance, a brown tongue, vomited frequently, and sometimes had a hiccough. He had had, by the anus, no passage during the last five days, although calomel and other cathartic medicines had been given to procure stools. He informed us, that he had been subject to a rupture on that side several years; that he had generally succeeded himself in reducing it, but that it had been constantly down during the last month. A very awkward truss, invented by himself, and which, by its structure, was calculated to make a very improper and irregular pressure upon the diseased parts, we found upon the tumor. We directed a glyster, composed of sal catharticus amarus, and an infusion of the leaves of tobacco, to be administered; but this was rejected almost as soon as it was given. The *extreme* hardness of the parts left us little room to entertain hopes of reduction by the taxis, assisted by the means in common use. The case was dangerous; the symptoms were urgent; and we resolved upon the operation. Before we concluded on this measure, we perceived, *as we imagined*, the testis in a natural state beneath the inferior part of the scrotal swelling. I began an incision half an inch above the tumor, and continued it to the bottom of the scrotum. In dissect-  
ing



ing the parts I discovered that the tumor was a schirrous testis, and the spermatic chord was diseased, and so much thickened, as to be equal in diameter to the testicle itself. The upper part of the tunica vaginalis was adherent to the tunica albuginea of the testis, the lower part contained a fluid, into which projected the lower portion of the epididymis degenerated into a soft substance, as large as the testis, and which deceived us at our first examination. Castration was performed, and the spermatic chord was cut off close to the opening of the tendon of the external oblique muscle, but the disease extended too far within the abdomen, and the man was too much exhausted by the previous pain he had suffered, to give that operation any chance of succeeding.

The history we received of those circumstances, by which the patient had deceived himself and us, the symptoms which, at the time we saw him, indicated a stricture upon the intestinal canal; the form of the tumor, its extending under the opening of the abdominal tendon, and the enlarged state of the lower part of the epididymis, all contributed to mislead our opinion, and to deceive our judgment.



## C A S E XXXI.

April 5, 1783, I was desired to visit a man, about fifty years of age, with Mr. *Harrold*, an ingenious surgeon of Atherstone, formerly a pupil of mine. He had a large painful tumor in the groin and scrotum. It was unequally hard; in some parts appeared to contain a fluid. The upper part of the spermatic process was not to be perceived, the tumor pressing against the tendon of the oblique muscle. An eminent surgeon in the neighbourhood had visited the patient, and declared the case to be a rupture. We were informed that the swelling began at the lower part of the scrotum, proceeding upward; and we entertained so little doubt of the case being a true schirrus of the testis, that we proposed castration as the only remedy. We were the more induced to this, because we entertained hopes from an obscure fluctuation we imagined we perceived in the upper part of the tumor, that some kind of fluid was contained there. Nor were we deceived. Mr. *Harrold* performed the operation; and in dissecting the upper part of the chord, several ounces of a watery fluid were discharged; the testicle was truly schirrous, and weighed upwards of two pounds. The patient recovered, and the wound was completely cicatrized.

CASE



## C A S E XXXII.

August 20, 1784, I was desired to visit a middle-aged man at Monk's-Kirby, in the county of Leicester. He had the symptoms of a strangulated hernia. He had been two days under the care of Mr. *Bates*, a surgeon in the neighbourhood, who ordered to the hernia the application of warm fomentations, &c. Mr. *Jervis*, of Lutterworth, had been sent for the night before I saw the patient, and after bleeding and cold applications had been used, ineffectually endeavoured to procure a reduction of the parts. The man remembered that in his early childhood he had a rupture, which had been cured; said, that about six or seven years past he had a swelling in his groin, which had never been very troublesome to him; but that a few days before I saw him, by some sudden exertion, the swelling had suddenly increased. We agreed upon the operation for the bubonocoele, which was performed by Mr. *Jervis*. The swelling occupied the whole scrotum. The testis on that side was not perceptible. Upon dividing the hernial sac a considerable quantity of water issued out. A large fold of intestine, *very dark coloured*, was found in contact with the testis. The tendinous opening of the muscles was dilated, and the intestine was returned fairly into the belly, of which I convinced myself by an examination with  
the



the finger. There was still a very considerable thickness and tumor of the spermatic chord, and whilst we were examining it, through an opening so small as not to admit the obtuse end of the probe, a jet of a thin brown fluid, of an offensive smell, broke out, and continued many minutes. It stopt suddenly; and, upon the patient's expressing a desire of going to the close-stool, it returned again. We formed various conjectures, none of which were very satisfactory, of the cause of this phenomenon. The wound was treated in the usual way, and the man ordered to-bed; but the discharge of the fluid I have described made its way through the dressings and bandages. All the bad symptoms that preceded the operation continued after it, and the patient sunk very fast; he had no passage per anum; and in about thirty hours died. Upon dissection, Mr. *Jervis* found the portion of the ileum, which he had returned from the scrotum, lying near the groin, much recovered in its complexion; tracing the intestine forward, he was surprised to perceive, at the distance of ten inches from the part just described, another portion of intestine still engaged in the groin. Upon accurate examination, he found, that it was contained in a sac, which had been pushed into the spermatic process. Thus, in this case, there had been a double hernia, one a common enterocele, the other the hernia congenita; the former had been relieved by the operation, the other had not. The intestine



intestine within the sac was much diseased; was pretty generally adherent to it; and the part through which the fluid had been discharged at the time of the operation; both the intestine and the sac were discovered to be in a sloughy state.

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I have lately been favoured with the following Communication from Mr. ALANSON.

“ *Ormskirk, Aug. 1, 1802.*

“ I am glad to find you intend to publish a  
“ second edition of your Observations on Herniæ,  
“ as, I believe, you will strengthen and throw new  
“ light on what you have heretofore advanced  
“ upon this subject. It will also give me an op-  
“ portunity, by your permission, of describing a  
“ new species of hæmatocele, which, I believe, is  
“ without a precedent in the history of medicine.  
“ At least it has not occurred to me, that either  
“ the ancient or modern records of surgery have  
“ furnished such a case. I shall also embrace the  
“ present occasion to relate a very striking case,  
“ where, in a strangulated hernia, the stricture was  
“ found *in the neck of the hernial sac*. Having  
“ performed the operation for the bubonocoele in  
“ sixty-one instances, besides being often present  
“ with other surgeons, I have had frequent occa-  
“ sions to observe and demonstrate the existence of  
“ this



“ this species of stricture, and, had it been necessary, could have furnished you with many more instances of it. Permit me to conclude with a proposal to reduce strangulated herniæ by a method not usually practised.”

*Case of a singular Hæmatocele.*

“ Mr. H——, of Everton, near Liverpool, received a wound from a thrust of a sharp-pointed penknife, which passed the length of the blade. The wound was situated below the chest on the left side, and immediately discharged a considerable quantity of blood, which brought on fainting, with the most extreme degree of languor, cold sweats, and a pulse scarcely perceptible. Mr. *Ellison*, surgeon of the family, attended, dressed the wound, and treated the case in every respect judiciously. At five o'clock the next morning, the symptoms continuing with increased debility, and danger of immediate dissolution, Dr. *Brandreth* was consulted, and soon after I was called. We were at a loss to account for the urgency of the symptoms, as the external loss of blood was not sufficient to occasion such extreme reduction of strength, the patient being a strong, stout, healthy man. It will be sufficient, for the present purpose, to add, that he recovered very slowly; and three weeks elapsed before we could declare him out of danger. On the fourth day after this time, I was called and informed, that Mr. H—— laboured under symptoms



toms of strangulated hernia. Leeches and cooling repellent topics had been applied, a purging mixture ordered, and attempts made to reduce it without success. The tumor was large and extended from the opening of the external oblique muscle, which was enlarged, and the diameter of the neck of the tumor was larger than common. It was tender, and would not admit much pressure from the hand. The vomiting was urgent and very distressing; the belly tense and painful. Clysters, calomel, and the constant application of cold water, with gentle attempts for reduction, were recommended. At our next visit we found he had passed more stools than is usual in a strangulated hernia, or discharged by glysters from that part of the intestine below the stricture. Although we could not exactly determine the nature of the case, we were unanimously of opinion it was time to open the tumor. The urgency of the vomiting, tenderness of the belly, and increased soreness, with an inflammatory blush on the swelling, directed our judgment. I made a long incision through the skin, and cautiously went on into the hernial sac, proceeding to divide the whole from the ring to the bottom of the scrotum. The contents formed a solid heterogeneous mass of a dark colour, much resembling the solid substance contained in an old aneurismal sac. It seemed composed of diseased omentum and coagulated blood. The adhesions, which were general and strong, between the omentum



tum and sac, being next separated, and, upon an accurate examination, it appearing certain that no intestine was engaged in it, I therefore drew down more of the omentum through the ring, so as to be able to divide it in the sound part, and the whole contents of the tumor were cleared away. The edges of the wound being approximated were retained by suture, but a dependent opening was left at the lower part for the passage of any blood from the wounded omentum, or discharge which might be expected to take place from the surface of the hernial sac, too much affected to admit of a speedy union by adhesive inflammation. The restoration of the patient's health and cure of the wound went on without any interruption worthy of notice. This man had for many years been subject to an omental hernia; the sac became the receptacle of internal hæmorrhage from the wound made by the penknife; the thin parts being absorbed, the coagulable lymph united with the omentum, and formed a large compound coagulum, which very generally adhered to the hernial sac."

*Case of Strangulated Hernia, occasioned by a Stricture of the Sac.*

"Thomas Wood, of Warrington, was admitted into the Liverpool Infirmary for a strangulated hernia. The tumor was of a long narrow form, extending from the ring to the bottom of the scrotum. The patient was a thin, pale, and very delicate



delicate man. He had been afflicted with a hernia from early infancy, had worn a truss, and was thought to be cured; but, for a long time, he had a fulness in his groin, attended with soreness. As all the means usually had recourse to in these cases had been tried previous to his admission, recourse was had to the operation. The hernial sac contained a small quantity of water, and a fold of the intestine ileum, which was somewhat inflamed and distended, but otherwise tolerably sound. All circumstances seemed favourable for reduction, yet gentle and continued efforts for that purpose did not succeed. The opening of the abdominal tendon was now freely divided, but reduction was still impracticable. The intestine could be passed up only in part; and upon discontinuing the pressure, it fell down again immediately. I then passed my finger within the abdominal cavity, where I found a stricture of a small size, rigid, and firm in its texture, harder and more gristley than a membrane, and nearly the whole length of my finger beyond the entrance into the cavity of the abdomen. The whole difficulty was now apparent, as also that of completing the operation. It seemed impossible to succeed without again dividing the abdominal ring very freely, so as to give room for the finger and knife to pass. This being completed, my friend and colleague Mr. *Parke*, took hold of and strongly pulled down the sac, and brought the stricture, though with difficulty, so low that it could be distinguished



distinguished by the eye. It was so tight and complete that it was impossible to place the end of my finger between the gut and the stricture, so as to enable the end of the knife to act or divide with safety. The difficulty also was increased by that part of the sac, for some distance below the stricture narrow, and of a pyriform shape, being so filled up with intestine that the folds could not be kept off the edge of the knife. To obviate this danger I covered the edge of the knife with slips of plaster, and replacing my finger, placed the probe end of the knife a little short of the extremity of the nail, and, by degrees, dividing one fibre after another, by repeated gentle strokes of the knife, the stricture was at last divided.

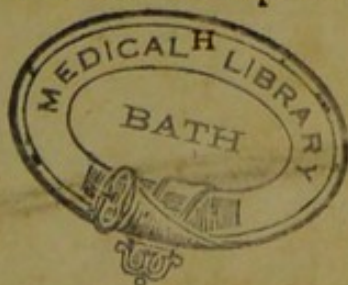
The patient recovered. This was the most difficult, tedious, and dangerous business I ever went through in the operative way; and from which many useful practical hints may be deduced. It was a case of congenial hernia; and the patient had long worn a truss during the younger part of his life. In all the cases I have met with (which have been many) where the stricture was formed in the sac, I believe the hernia has been of the congenial kind, and has been occasioned by the cicatrix or point where the tunica vaginalis should have closed on the testicle and its appendages; or, where, in a common hernia, the case had been of long standing, and a truss had been generally worn. Under these circumstances the entrance into the  
sac



sac may be so constricted, and become so hard and thick, as to form a considerable stricture without much assistance from the abdominal tendon; and it is probable that surgeons have been frequently deceived; and when they have divided strictures in the neck of the sac, have imagined they had enlarged the opening of the tendon. I could have furnished you with many cases where the stricture was in the sac only, where I have either operated or been present, but presume what has been said will be sufficient to convince the unprejudiced.

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“ I have long been an advocate for early operation in cases of strangulated herniæ, and cannot accuse myself of having trifled away the life of a patient from delay, and a confidence in fruitless expedients too long continued. When the stricture is considerable, and has produced vomiting, the usual exhibition of cathartics is always injurious, fatiguing, and inefficacious. The only means which promise success are, placing the patient in a proper position, the continued application of cold water, assisted by well-timed manual pressure, and the influence produced in the nervous system by the debilitating effects of the smoke or infusion of tobacco injected into the rectum. During the action of this, very obstinate strangulated herniæ have returned. On a similar principle I have for some time past been of opinion, that the most efficacious





efficacious remedy, administered internally, will be found in giving as large doses of opium as are compatible with the safety of a patient's life. During the action of this, placing the patient in the most favourable position, let the hand be applied so as to assist the return of the protruded parts by a steady, firm, and continued support. If this plan succeeds, the effect will be speedy. It will not consume too much of that precious time which is always running on against the life of a patient who is so unfortunate as to labour under a strangulated hernia."

THE END.