

nation how far the two collections of serum are contained in a continuous cavity?

I have been rather successful in the obliteration of *chronic* sinuses by means of the destruction of their internal surface by strong nitric acid. Wherever inflammation, or even redness, has attended them, the experiment has generally failed; but the large majority of these canals are not inflammatory, but chronic.

The mode of applying the escharotic is by means of a fine glass tube, of length sufficient to reach the full extent of the sinus. At one end of the tube is a small glass bulb. The air is sufficiently exhausted by the hand, when warm, to draw up sufficient acid to fill the tube, and partly so, the bulb. The instrument, thus armed, is passed into the sinus, and the acid discharged, either by the hand, or by the aid of a lucifer match, while the tube is slowly withdrawn, pouring out its contents along the entire track. I have by such means succeeded in getting rid of several old sinuses that have given me a good deal of trouble. The glass instrument I have described is not new to this operation. I am not the discoverer, but I can report favourably of its utility.

Grosvenor-street, January, 1856.

CLINICAL CASES, WITH OBSERVATIONS.

By HENRY HANCOCK, Esq., F.R.C.S.,
SURGEON TO THE CHARING-CROSS HOSPITAL.

ON FISSURE OF THE RECTUM.

CASE 1.—I was sent for to Mrs. ——. She complained of continual bearing-down pains, with violent throbbing in the perinæum between the anus and vagina; pain and forcing about the anus; great suffering when the bowels acted, and for several hours afterwards; obstinate constipation, the bowels not acting without the aid of aperients. The evacuations were sometimes mixed with blood, and occasionally she fancied she perceived matter. Her sufferings were so great, and she dreaded the action of the bowels so much, that she avoided medicine as much as possible. She was extremely weak and attenuated, unable to walk or bear carriage exercise, and had been confined to her sofa for above three years.

In consequence of the bearing-down pains and uneasiness in the perinæum, she had, some eighteen months previously, consulted a gentleman, whose practice was especially referred to diseases of the uterus. He informed her that she had retroversion of the uterus, with inflammation of its neck, and treated her accordingly, applying caustic from time to time. This continued to within a few days of my seeing her, when, finding she was no better, but that, on the contrary, inguinal swellings were added to her other ailments, she discontinued his attendance.

I proposed an examination, to which she readily consented, begging me to pay particular attention to the perinæum and septum between the rectum and vagina, where her sufferings were principally seated when her bowels were quiet, so that she felt convinced there was something wrong there. I examined her very carefully. There was nothing wrong about the uterus, nor between the rectum and vagina; but upon introducing my finger into the rectum, it was clasped most strongly by the sphincter ani muscle, causing great pain, and upon pressing towards the back of the anus within the sphincter, and towards the right of the os coccygis, I felt a soft spongy cleft, very unlike the smooth, firm surface of the surrounding parts, whilst at the same time my patient complained greatly, saying, "Oh, that is what is so dreadful when my bowels act." Upon withdrawing the finger there was a narrow line of matter tinged with blood upon it. I concluded that the disease was fissure of the rectum within the sphincter ani, and that the other symptoms were sympathetic, and referrible to that cause, and I proposed to divide the muscle through the fissure. Three days afterwards, having in the interim thoroughly emptied the bowels, I performed the operation. She completely recovered. Her bowels act without causing pain, and she is now able to take long walks without any inconvenience.

CASE 2.—Mrs. — came from Essex to consult me for forcing and bearing-down pain in the rectum and vagina, obstinate constipation, excessive suffering when the bowels acted, continuing for several hours afterwards, and occasional discharge of blood and mucus. The disease had existed nine months; walking or carriage exercise caused so much pain, that she was obliged to give them up, and confine herself to the recumbent

position. She was very thin; her pulse rapid and feeble; countenance pale and anxious; and she could not sleep at night, in consequence of the throbbing and pain in the perinæum. Upon examination, I found a fissure at the posterior part of the anus, to the right of the os coccygis. This was cut through with the sphincter muscle, and in a month the lady was completely cured.

CASE 3.—I have at present a young woman, aged twenty-seven, under my care, who for the last four or five years has suffered great pain during defecation, losing blood at the same time; occasionally very small quantities of matter; frequent tenesmus; great weight and bearing-down; pain in the perinæum and vagina; profuse leucorrhœa. About six months ago she suddenly lost a considerable quantity of blood from the bowel, and for two days could not micturate. After this the pain in defecation became much more severe, and she was unable to follow her employment of a housemaid. She consulted a medical man, who treated her for some time, but without benefit. She had also been examined for uterine disease.

On the 14th of December last I saw her, and found a fissure within the rectum, to the left of the os coccygis; when my finger pressed against it she almost threw herself off the bed from the pain it caused her. The sphincter ani muscle acted most powerfully. I cut through the fissure and sphincter muscle. The bowels were kept quiet by opium for the next three days, and on the fourth day a dose of castor oil was given.

Since the operation the patient has not suffered the pain during defecation, nor the tenesmus, nor has she lost any more blood per anum. Her bowels are now becoming regular, acting naturally without the aid of aperient medicine.

CASE 4.—Mr. — consulted me, during last summer, under the following circumstances:—About two years ago, after a hard day's shooting, during which he got wet, he was alarmed at passing a considerable quantity of blood per anum; this was succeeded by great irregularity of the bowels, which for a time were much relaxed, but afterwards constipated, with occasional discharge of blood and mucus. When the bowels acted, there was great pain, which lasted for several hours, the fæces being small and attenuated. Having remained in this state for fifteen months, he went to Paris, where he consulted a surgeon of eminence, who pronounced his disease to be stricture of the rectum, and ordered a bougie to be passed every morning, and a suppository into the gut. He continued this practice for nearly nine months, without any benefit. The introduction of the bougie was attended with severe suffering, which lasted many hours, and when the bowels acted the same obtained. He frequently lost a considerable quantity of blood, and also mucus, and became weak and thin.

When he applied to me, his countenance was pale, yellowish, and anxious; conjunctiva yellow; pulse quick and irritable; tongue coated and furred; spirits very much depressed. He complained of constant pain about the hips and loins; frequent discharge of mucus, sometimes of blood, these discharges coming on so much when he walked, that he was almost debarred from that exercise. He could not sleep at night for pain, and he wound up the narration, saying he had been given to understand that his case was hopeless, and that it would sooner or later destroy him.

I introduced my finger into his rectum; it was firmly gripped by the sphincter ani muscle; and upon pressing towards the left of the os coccygis, it entered a soft, spongy fissure, giving the patient great pain. I concluded that the attack, two years ago, was chronic dysentery, that fissure of the rectum had supervened, that the small size and attenuated form of the fæces did not depend upon stricture, but upon the excessive contraction of the sphincter ani muscle, and the engorgement of the hæmorrhoidal vessels, resulting from the constipation, and that probably the discharges of blood were also due to the latter cause, and that the treatment to be pursued was to remove all sources of irritation, and to put the parts as completely at rest as possible. With this view, the bougies and suppositories were ordered to be discontinued, and his bowels to be thoroughly cleared out by turpentine and castor oil; after which, I proposed to divide the sphincter ani through the fissure. He consented, and the operation was performed a few days afterwards.

The operation relieved the local symptoms, but on the third day he suffered from constipation, with tenesmus, and a slight discharge of bloody mucus. He was ordered, castor oil, half an ounce, spirits of turpentine, two drachms, peppermint-water, to an ounce and a half, which caused a copious evacuation, followed by considerable amendment. His subsequent

treatment consisted of five grains of inspissated ox gall, with fifteen drops of Battley's solution of opium, thrice daily, and the turpentine and castor oil draught every second or third night, as required.

Since the operation, the discharge of blood has entirely ceased, and there has been very little, if any mucus. The pain in the part when the bowels act, and also about the hips, has subsided; and when I heard of him, a short time since, he had been walking a distance of several miles without fatigue. His bowels now act occasionally without the aid of medicine, and before he left London he could pass fæces of natural size.

These cases appear to me to present some points of considerable interest, and of no less importance. When we consider how prevalent are constipation, and consequent hæmorrhoids and turgescence or engorgement of the hæmorrhoidal vessels amongst females; when we see that this constipation and congestion are frequently complicated with fissure, and the sympathetic irritation and intense suffering set up in the genito-uterine organs by that cause; when, moreover, we see, as in the first case, the true nature of the malady entirely overlooked, and the treatment for fifteen or eighteen months restricted to the uterus, which I have every reason to presume was healthy throughout, as when I examined it there was nothing the matter with it, and yet the patient declared she at that time suffered as much in that situation as she had ever done, and, in fact, had never experienced any mitigation from the treatment; we may reasonably infer, with these cases before us, that were more attention paid to this class of diseases, the speculum vaginae, and application of caustic to the uterus, would not be so extensively required as they appear to have been for the last few years. It might fairly be expected, where the suffering is so intense in the recto-vaginal septum, that if mischief be not actually present in the formation of abscess or otherwise, that the fissure in the rectum would, at all events, be in close approximation; but this is by no means the case. I have met with instances in which the perinæum had been lanced, under the erroneous impression that matter was present; but, as a general rule in this complaint, I have found that though the symptoms about the perinæum and uterus may be urgent, and almost engrossing, the fissure in the rectum has always been at the posterior part of the anus, to the right or left of the os coccygis.

We have seen, in the fourth case, the patient treated for stricture of the rectum for nine months without benefit, and the symptoms subsiding upon the division of the sphincter through the fissure. True organic stricture of the rectum, of a non-malignant character, is a very rare disease. Malignant diseases of the rectum are more frequently met with, as are spurious or sympathetic obstruction to the passage of fæces, depending upon some local irritation, such as here related, or fistula, or some other cause; but a non-malignant organic stricture is very rare.

When, therefore, symptoms of stricture of the rectum are present, a careful examination should be made whether any cause of irritation exists; and, if so, such cause, whatever it may be, should be got rid of, when, in the majority of instances, the symptoms of stricture will subside of themselves without the employment of bougies, which are unnecessary, if not actually injurious.

The bearing-down and continued gripping sensation at the anus, tenesmus, pain at and after defecation, violent contractions of the sphincter ani around the finger, and the soft, spongy feel of the fissure itself, will usually be sufficient to distinguish fissure of the rectum from stricture, even though symptoms of stricture be present.

Harley-street, January, 1856.

THE FROG AS A DETECTOR OF TETANIC POISON.

By WILLIAM BUDD, M.D., Bristol.

I HAVE read Dr. Marshall Hall's important note on the detection of strychnia with more than common interest. Many years ago it occurred to me that the obscurity which hangs over the pathology of traumatic tetanus might possibly be cleared up by the method which this eminent physician proposes for the detection of this deadly poison. The most general view of that form of tetanus which follows wounds is, no doubt, that the exaltation of spinal-nerve force, on which the tetanic phenomena depend, is the result of prolonged irritation (as the phrase is) of some peripheral and afferent nerve. Of

this view Dr. Hall himself is the most distinguished exponent. As a *prima facie* view of the phenomena, many striking facts may be cited in favour of it. On the other hand, there are many difficulties which it does not seem to meet, and we have no actual proof that the mere local irritation of a nerve is capable of producing such a dynamic condition of the cord as that we witness in this remarkable disorder. Many pathologists have been led in consequence to suppose that this condition may possibly be brought about in tetanus, not through the nerve at all, but through the blood, and may be due, in fact, to the development and introduction into that fluid of some morbid poison resembling strychnia in its physiological action. These are the two hypotheses which at present divide medical opinion on this interesting subject. Of the two, the weight of probability seems to be, on the whole, in favour of the last. Until one is established, to the exclusion of the other, neither can be regarded as more than an hypothesis; at the same time, it seems highly probable that one or the other represents the truth. To the physician it is, I need scarcely say, of the deepest moment to decide between them.

Now, the peculiar physiological properties of the frog, referred to by Dr. Marshall Hall, seem to give us the means of so deciding—finally and without appeal. If, in fact, traumatic tetanus be really caused by a peculiar toxic agent, it appears necessarily to follow that, in many cases at least, some portion of this agent must still be present in the body at the time of death; and if so, it would be almost equally certain that, by appropriate means, such an agent might be obtained from the dead body in a separate form, and be made by experiment to exert its specific action on the susceptible cord of the batrachian. That a poison which should excite such a dynamic condition of the cord as to be fatal to a man would affect in a similar way the cord of the frog, may be regarded as beyond a doubt.

Some time in the summer of 1853, (if I remember rightly,) I endeavoured to put this question to the test of experiment, and although circumstances rendered the attempt abortive, it may perhaps be worth while to relate the facts. The method followed was, in principle, identical with that which Dr. Hall proposes for the detection of strychnia. An alcoholic extract having been carefully made from the spinal cord of a man who had died of traumatic tetanus, it was evaporated to dryness, and what remained was treated by distilled water and filtered. A portion of blood from the dead body of the same man was treated in the same way. Into each of the aqueous solutions thus obtained a frog was placed, as in a bath. Small portions of the same solutions were injected into the cellular tissue of other frogs, through wounds made in the skin. In others, again, a minute portion of the dried alcoholic extract was inserted underneath the integument. The animals were closely watched for about two hours, but no result ensued; not one of them seemed to suffer in any peculiar way from the treatment.

Although the result was, therefore, entirely negative, it must not be considered as decisive of the question. In the first place, to decide a question like this, one trial is palpably insufficient. On the other hand, there were many circumstances in this particular case which tended very much to lessen the value of any negative evidence derivable from it.

To begin with, the examination of the body was not made until thirty-six hours after the death of the patient. As the weather was intensely hot at the time, it is quite possible, even supposing an organic poison to have been present, that it might have been decomposed in this interval.

In the next place, as I only heard of the case by accident, about an hour before the dissection, I had no frogs at hand. In consequence of severe and prolonged drought, four or five days elapsed before I could procure any, and those I did at last obtain, were very weak and languid.

It is obvious that no great weight can be attached to a negative result obtained under such conditions.

I hope on some future occasion to be able to repeat this experiment under more favourable circumstances. Meanwhile, as the opportunities which physicians have of observing tetanus are comparatively few, I venture to recommend its adoption (with any modifications which further experience may suggest) to the surgeons of great hospitals, in whose province such cases more particularly lie.

Where possible, or safe, it would of course be desirable to apply this physiological test to blood taken from the patient during life, as well as to products obtained from the dead body. As far as the best conditions for bringing the frog under the influence of any toxic agent that may be supposed to exist are concerned, we may look with perfect confidence to the researches which Dr. Marshall Hall is at present instituting.