able condition, on September 19th chloroform was administered; and the sac being emptied, the following operation was performed, Listerian precautions being used.

An incision was made from just above the external ring, on the right side, through the whole length of the scrotum, until it terminated immediately below the posterior wall of the sac, that is, the centre of the lower end of the testis; and, in this way, all the structures down to the sac were severally incised. The apex of the latter, which was not opened, was cleared away from the margins of the external ring and structures of the cord by means of a Brodie's director; and, being then held between the forefinger and thumb, it was pulled down as much as safety would permit, so that its highest point could be delimited by a chromicised catgut-ligature. Just below, with a pair of scissors, the sac was cut across, the upper end immediately slipping within the ring; and the lower portion, except the part attached to the testicle, was removed by dissection, due care being taken to avoid injuring either the vas deferens or the vessels accompanying it. All bleeding points having been secured or arrested, the pillars of the external ring were approximated by four points of interrupted silver wire suture, and the scrotal wound coapted by gut-sutures applied and tied at very short intervals; at the extreme lower limit, and at the most dependent point, a small and short glass drainage-tube was inserted. The gauze-dressings having been carefully and systematically applied, and due convenience for micturition also afforded, the little patient was returned to his cradle.

September 13th. The report stated that, immediately after the operation, and for many hours, the child was very faint, and at times much collapsed. Restoratives were freely used, and eventually rallying commenced, and reaction was fully established. There had been no sickness, neither was there the slightest abdominal tenderness. The dressings, being in good position, were undisturbed.

September 14th. The wound was dressed, the drainage-tube being removed.

September 16th. The wound was redressed; it had a very healthy appearance.

September 19th. Lister's dressing was discontinued, as the wound was healing fast. Unguentum boracis was applied; and, in a few days, the healing was complete and sound. Three or four weeks afterwards, the child commenced to have whooping-cough; and, in spite of this severe and trying test, the radical cure continued. No truss has been worn since the operation.

This case causes reflection as regards (1) the age of the patient; (2) one or two points in connection with the operation.

1. The patient was young, and with truth I think it may be added very young—an unweaned baby carried in the arms; and probably, unless the spray had anything to do with it, this circumstance was the cause of the very prolonged shock which followed the operation. On several occasions, I have noticed the depressing effect of surgical operations upon young children; they bear the operations well, but they bear the shock of them badly.

2. The points in connection with the operation are these. *a.* The sac was ligatured before it was opened; and it was detached from above downwards, instead of, as some surgeons prefer, from below upwards. *b.* The pillars of the ring were carefully stitched together, and closed by four silver wire sutures, and so there is every reason to believe they still remain an evidence of the advantage, as well as of the necessity, of using metallic rather than catgut sutures; for with the former you are enabled permanently to place an effectual barrier against the re-formation of a fresh sac and hernia.

ON THE TREATMENT OF IRREDUCIBLE INTESTINE IN HERNIOTOMY.

By F. A. SOUTHAM, M.B. Oxon., F.R.C.S.,

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It occasionally happens that, on opening the sac in herniotomy, coils of intestine are found, so closely and so firmly bound together by dense adhesions, that it is impossible to divide or tear them through without injuring the bowel; especially in cases where the walls of the latter are extremely congested, and, consequently, more readily lacerable than in a healthy state.

This condition is only met with in hernie which are of long standing, and have previously been of an irreducible nature. Associated with these internal adhesions, others are often found running between

the walls of the sac and its contents; in rare instances, the portion of mesentery contained in the sac is so much thickened and hypertrophied that, independently of the presence of any adhesions, the bowel may be irreducible from this cause alone.

In ordinary cases, adhesions, especially if recent, may be divided or torn through without much danger, though at times it may be necessary to dissect away the portion of the sac to which they are attached.

It is to the treatment of cases where the internal adhesions (that is, those between the coils of bowel) are so extensive, so firm, and so short, that they cannot be separated in this way, or where the hypertrophied condition of the mesentery is present, that I wish to call attention.

The ordinary method is to leave the bowel, after dividing the stricture, unreduced in the sac; the result is that the bowel, especially if much congested or inflamed, not unfrequently sloughs and gives way, or, if recovery take place, the patient is still left with an irreducible hernia. In other cases, attempts to break down the adhesions are persevered with until the bowel is ruptured. An alternative to these procedures, in cases of inguinal hernia, is to enlarge the opening in the abdominal walls by an incision, carried upwards from the internal ring, large enough to admit of the reduction of the coils of intestine, still adherent together, into the cavity of the abdomen. The opening having been made, the bowel is replaced through it, as it were, *en masse*; the wound in the abdominal wall is then closed, and at the same time a radical cure may also be performed.

In illustration of this method of treatment, I may mention the following case of strangulated inguinal hernia, which was under my care at the Manchester Royal Infirmary, in February, 1884; it occurred in a man, aged 49, the hernia having been present and irreducible for upwards of twenty years. On opening the sac, there was found a mass of bowel, of the size of one's fist, the coils of which were firmly adherent together by short, dense, firm bands, evidently of long standing; there were no adhesions between the bowel and the walls, or the neck, of the sac, nor was there any omentum present. After dividing the constriction, which was high up at the internal ring, an attempt was made to separate and break down the adhesions binding together the coils of intestine; but these were so firm and short, that it was quite impossible to do so without lacerating the walls of the bowel, which, being extremely congested, were not in a condition to stand much force or pulling about.

The incision was accordingly prolonged along the inguinal canal up to the internal ring, and then carried upwards from the latter for about three inches through the whole thickness of the abdominal walls. This having been done, the coils of intestine, still adherent together, were then without any difficulty at once replaced in the abdominal cavity. The margins of the opening in the peritoneum were brought together by catgut sutures, and the internal ring was also closed in the same way, care being taken not to include the spermatic cord. The opening in the abdominal walls was then closed with silk sutures, passed deeply, so as to include the muscles, but not the peritoneum; a drainage-tube was brought out at the top of the wound, and also through a counter-opening at the lower part of the scrotum, so as to draw the sac from its bottom. The wound was then dressed according to the Listerian method, the operation having been performed under the carbolic spray. The wound readily healed, and recovery took place without a single bad symptom; the patient was up on the twelfth, and on the eighteenth day he left the hospital, wearing a truss, the pad of which was made to cover and press over the abdominal incision. When last seen, some weeks later, he was following his usual occupation, that of a labourer, and there was no evidence of any tendency to the formation of a ventral hernia.

A somewhat similar plan of treatment was adopted by my colleague, Mr. W. Whitehead, with an equally successful result, in a case in which I assisted him some months previously; in this instance, however, the irreducibility of the bowel was not due to any adhesions, but to a much rarer condition—namely, an extremely thickened and hypertrophied condition of the mesentery contained in the sac.

The advantages of this plan of treatment over the ordinary method are as follows.

1. If much congested or inflamed, the bowel is more likely to recover itself in the abdomen than in the sac, where, if left, it not unfrequently sloughs, and perforation results.

2. The patient is not left with an irreducible scrotal hernia.

3. A radical cure can be performed at the time of operation.

The chief objection to this method is that, owing to the somewhat free division of the abdominal walls sometimes necessary, a ventral hernia might afterwards form at the cicatrix; but this can, as a rule, be prevented if the patient wear a truss or an abdominal belt; even if a slight protrusion do appear, the inconvenience caused would pro-

bably be less than that which accompanies a large irreducible scrotal hernia.

The extra-opening into the abdominal cavity is not attended by much more danger, if the operation be performed with strict antiseptic precautions; and the risks attendant upon it are, I think, not greater than those which accompany the leaving of the bowel unreduced in the sac, or the attempt to forcibly reduce it by dividing or tearing through old adhesions, when exceptionally dense and firm.

NOTE ON CHOLECYSTOTOMY.

Read before the Pathological and Clinical Section of the Birmingham and Midland Counties Branch.

By LAWSON TAIT, F. R. C. S.,

Surgeon to the Birmingham and Midland Hospital for Women.

THE performance of this operation has now been so frequently successful in various parts of the world, that I think we may take it as an established addition to surgical procedure. I have been written to by many practitioners, asking for a list of the cases which I have performed, and I therefore desire to publish them, in order to save the necessity in future of furnishing each of my correspondents with manuscript references.

[Here Mr. Tait gives a Table, the particulars of which, with the exception of the case related below, are contained in Mr. J. W. Taylor's Table, published at page 221 of the JOURNAL of January 31st.]

The only addition to the literature of the subject, which requires present notice, is a recent paper by Dr. G. McF. Gaston of Atlanta, Georgia, which has been sent to me by its author. It was printed in Gaillard's *Medical Journal* for October, 1884; and the editor proposes that the proceeding advocated by Dr. Gaston should, in future, be known as Gaston's operation. Briefly, it consists of making a communication between the gall-bladder and the duodenum. The paper in which the proposal is made is so indefinite, and contains such singular views of the anatomy and physiology of the organs concerned, that it is quite possible I do not understand the full merits of the proceeding. Dr. Gaston's operations were limited to five dogs, upon two of whom the results were eminently unsatisfactory; and it is perfectly certain that the proceedings, which he recommends for dogs, could not possibly be applied to the human being. I can see no advantage in the establishment of a circular canal passing through the duodenum and the gall-bladder; and I think that, in all probability, the ring so formed would be a very convenient trap for knuckles of intestine.

The operation of Marion Sims restores the gall-bladder to its normal function, whilst that of Gaston certainly never could. In the event of the recurrence of the disease, whether it be suppurative or the formation of gall-stones in the bladder, a small incision will enable us to reach the bladder on the second occasion without opening the peritoneum; but the whole trouble would have to be gone over again, from the first step to the last, with additional complications, if Gaston's operation had been performed; and, from my experience of artificially made fistulous openings, I do not think the chances would be very great in favour of the artificial communication remaining long open between the gall-bladder and the duodenum. Another difficulty would be that the contraction might, in process of time, form a stricture of the duodenum, so that I cannot, in face of all these considerations, see my way to give Dr. Gaston the credit for his suggestion which he evidently thinks I ought to award him.

In addition to this proposal of Dr. Gaston, I have had a large number of suggestions communicated to me from various sources, all of which I have carefully considered without having seen my way to recommend any of them as an addition to the original proposal of Marion Sims, the only practical addition to which consists in crushing the stones outside the duct by means of forceps, as already published in this JOURNAL, May 8th, 1884. The case there narrated has had a perfectly successful result, for Mr. Forty, of Wotton-under-Edge, under whose observation the patient is, tells me that the fistula has been completely closed for nearly five months, and that she is in perfect health.

I have now to add a fourteenth case of the operation for gall-stone, in which this plan of crushing the stone outside the duct had to be employed, the fragments being removed by the ordinary apertures in the bladder—a sort of combined lithotomy and lithotripsy, by which one of the chief difficulties of the operation was easily and successfully overcome.

I saw Mrs. W., aged 50, in consultation with Mr. Littlewood, of Walsall, on January 6th. The patient was then haggard in expres-

sion, her face denoting protracted suffering. She had been in bed for many months, suffering from constant pain in the region of the liver, with symptoms of gastric disturbance and general *malaise*. She had been practically an invalid for five years. Mr. Littlewood had discovered a tumour below the liver; it was firm and elastic, and could be moved, latterly, in almost any direction, and to some considerable distance over to the left of the middle line; it varied from time to time in size, and sometimes could not be discovered at all. She suffered from violent exacerbations of pain, which Mr. Littlewood regarded as due to the spasmodic contraction of a distended gall-bladder, the duct of which was blocked by a calculus. I entirely agreed with his view, and we both advised the patient to submit to a surgical operation, and to our advice she yielded a ready consent.

On January 13th, I made an incision, about three inches long, over the notch of the liver, and came at once upon a distended gall-bladder. This I emptied through an aspirator needle, and made an incision into the bladder at its base. I found in the neck of the bladder a large rough calculus, which was easily removed; but, beyond this, in a saccular expansion of the cystic duct, I could just touch another calculus, upon which I could not get my forceps to act from within the bladder. Keeping the forefinger of my left hand inside the gall-bladder as a guide, I passed my forceps into the peritoneal cavity, and grasped the calculus through the walls of the duct, gave it a smart squeeze, and easily broke it into small pieces, all of which I carefully removed with a scoop. I then stitched the wound of the gall-bladder to the wound of the abdominal walls in the ordinary way, and put a gum drainage-tube into the gall-bladder.

On January 16th, bile began to flow freely through the wound, but it has now entirely ceased, as the wound is quite closed. The drainage-tube was removed on the 18th, and the stitches were taken out on the 21st. The patient got up on the 29th, and returned home on February 5th.

SEVENTY CASES OF DUPUYTREN'S CONTRACTION OF THE PALMAR FASCIA.¹

By NOBLE SMITH, F.R.C.S. Ed.,

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THE contraction of the fingers in these cases is now well known to be due, as Baron Dupuytren first pointed out, to induration, thickening and contraction of the palmar fascia, the tendons and other structures remaining in a perfectly normal condition.

The truth of this view of the pathology of these cases has been abundantly proved by dissection in the dead, and by examination and operation in the living. A simple way to demonstrate the fact that the resistant cords which may be present are not tendons, is to place a finger upon the palm, while the patient brings the flexors into action by closing his hand against some resistance. If the cord were a tendon, such action would increase its tenseness, whereas the band of fascia will be thus relaxed.

Without entering into further details of description of this affection, which are well known, I propose to discuss several points which appear to me to be of chief interest, and upon which my researches enable me, I believe, to throw some new light.

Through the courtesy of Dr. Rayner, medical officer to the Marylebone Workhouse; Dr. Yarrow, of the City Road Workhouse; and of Dr. Dunlop, of the St. Pancras Workhouse, I have been enabled to examine 700 elderly inmates of those institutions, among whom I have found 70 cases of Dupuytren's contraction (in 15 of which, however, the fingers were not bent). The points to which I have chiefly directed my attention, are,

1. The supposed immunity of females from the affection;
2. The cause of the malady;
3. Its treatment.

Modern writers have stated that contraction of the palmar fascia is only found in men. This statement is incorrect, for, out of 444 women examined, I found 11 cases of well-marked Dupuytren's contraction, and 15 cases of indurated, thickened, and contracted fascia alone.

I may here remark that, amongst the individuals examined, I found many cases of various kinds of deformed and contracted fingers; some from gout, some from rheumatism; also some of those congenital cases in which the joints and the tissues in the immediate neighbourhood of the joints are at fault. These congenital cases have occasionally been set down wrongly as Dupuytren's contraction, and I

¹ Read before the Medical and Chirurgical Society, March 25th, 1884.