to the posterior half of the bowel, the lower border of the disease was $\frac{1}{2}$ inch from the anus, and the upper border 4 inches. It was closely adherent to the coccyx and lower sacral bone, but was dissected off without removing either bone. The patient for two years used a bougie daily on account of contraction. This has now entirely disappeared. He has become stout, and has been in excellent health ever since the operation. There is no sign of any recurrence (May, 1892), and the patient has perfect control over his motions.

CASE III. *After Four Years.*—M. M., aged 61, was sent to me by Mr. Doran, and was operated on by me in 1878. Two inches and a half of the bowel were removed. In three months there was a slight spot of recurrence, which was removed, the portion being not larger than a pea. About a year later a recurrence took place, and again a small nodule was removed. I frequently saw the patient during four years, and the parts remained thoroughly sound and healthy.

CASE IV. *After Five Years (nearly).*—S. P., aged 35, was operated on at St. Bartholomew's Hospital in October, 1887. The disease, which had surrounded the bowel, had extended high, and had implicated the lower half of the rectovaginal septum, a fistula having formed through which a fungoid mass protruded into the vagina. Rather more than 4 inches of the bowel were removed, including about half of the whole thickness of the rectovaginal septum. The wound was allowed to heal over a large sized bougie, but, notwithstanding this, contraction gave some trouble, and for the first year she had very little control over the motions. By the end of the second year the tendency to contract had almost ceased, but as a precautionary measure I advised her to pass the bougie once a fortnight. In 1890 she was confined of a fine healthy baby, and, when last examined in 1891, there was no sign of recurrence, the part being soft and supple. The appearance of the parts resembled what is seen in a bad case of ruptured perineum, but the patient had acquired fair control over her motions.*

CASE V. *After Six Years.*—The patient was a lady, aged 40. On the anterior wall of the rectum, nearly 5 inches from the anus, was a typical patch of adenoid cancer about the size of a florin. It could only be felt when the patient strained down, and the portion of bowel on which it was situated became invaginated. With the assistance of Dr. S. Smith, the patient's medical attendant, I removed the disease, dissecting it off together with a portion of the muscular coat, treating the remainder of the base with the actual cautery. In six months the disease had recurred. It spread at an alarming rate, and there was a growth the size of a five shilling piece, with indurating overlapping edges and a hard ulcerated base. Assisted by my colleague, Mr. Butlin, I was enabled, by vulsellum forceps, after making the posterior cut, to drag the bowel some distance downwards. I completely cut round the growth, including the whole thickness of the bowel wall, a portion of the peritoneum being removed, and the opening closed with catgut sutures. Some contraction followed, necessitating the prolonged use of the bougie. There is still no sign of recurrence (July, 1892), and the patient has given up the bougie for two years. There is now a scarcely perceptible contraction, and the patient has complete control over the motions.

CASE VI. *After Six Years.*—T. H., aged 62, was admitted into St. Bartholomew's in August, 1885, and I removed the last 3 inches of the bowel for adenoid cancer. He was again admitted, three months later, with a slight recurrence in the form of a small nodule in the lower part of the wound, which was removed. The patient was lost sight of till 1891, when he came to see me at the hospital. He stated that he had been quite well till within a few weeks previously, when he noticed a little blood with his motions. I found a small crack in the cicatricial tissue in the middle line behind. I was in some doubt as to the nature of this, and thought it probably a slight traumatism from a hard motion. I gave him some astringent ointment, and he promised to see me again, if not better, in a few weeks.

CASE VII. *After Twelve Years.*—Miss D., aged 40, a patient of the late Dr. Matthews Duncan, was operated upon by me, assisted by Mr. Butlin, in July, 1880. About 3 inches of the bowel were removed, involving nearly the whole circumference, but a narrow strip was left. As in the former cases contraction was considerable trouble at first, but ceased to be so after two or three years. The patient now leads an active life, has good control, and has remained perfectly well from the date of the operation to the present time (somewhat over twelve years).

It will be seen from the foregoing reports that there are two prominent features which have an important bearing on the after-treatment of rectal excision. The first, and one that is common to nearly all cases, is the tendency to contraction, and the second that, in no fewer than three of the cases, there was a recurrence which was successfully treated by a second operation.

The contraction, which is so troublesome, can to a great extent be avoided by the proper treatment of the wound during the healing process. The contraction seldom commences till the third or fourth week, but will, if not prevented in the course of a few months, lead to almost complete closure of the outlet. This complication can in a great measure be prevented by introducing into the bowel a full sized rectal bougie an inch and five-sixteenths in diameter. This should be commenced at the end of a fortnight, and allowed to remain in for some hours daily for a month. The patient should then be directed to pass the bougie once daily for a year or even longer. The tendency to contraction seems gradually to disappear, and gives comparatively little trouble after the second year. The recurrence, which was successfully treated in three of the cases, was almost certainly due to minute portions of the disease being left behind at the

operation, and the fact of the second removal proving so successful is very encouraging, and I think that we should not hesitate to operate a second time provided the recurrence is within reach and its removal practicable. From the facts which have been stated, very brilliant results cannot be claimed, but it must be remembered that we are not only dealing with malignant disease, but with that disease when situated in a peculiarly inaccessible part of the body.

I claim, however, to have shown, from an experience of a considerable number of cases, that the mortality of the operation is less than 8 per cent., and that, while if the disease be left alone death is inevitable, an excision in suitable case holds out a fair prospect of relief, and even of a permanent cure.

RADICAL CURE OF HERNIA: A NEW METHOD.

By HENRY O'HARA, F.R.C.S.I.,

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SINCE September, 1888, I have performed an operation for the cure of inguinal hernia in males sixty times; in every case complete recovery followed, and in no instance has there been necessity for the re-employment of a truss or other artificial abdominal support. The ages of the patients ranged from 14 months to 73 years.

It is my intention in this paper to describe an operation differing from any yet advocated, and to give the details of the more interesting cases, with any complications that arose, merely tabulating those in which there was nothing special to note.

SPECIAL FEATURES OF OTHER OPERATIONS.

No difference of opinion exists with regard to the first step of the operation—that of exposing the sac, an incision being made, as for herniotomy. Banks, having separated the *vas deferens*, applies a ligature round the neck of the sac as high up as possible, and dissects out and removes the fundus. Having pushed the ligatured portion up the inguinal canal, he trusts to silver wires to hold together the pillars of the ring. Ball twists the neck of the sac, and secures it between the pillars of the ring by sutures passed through these structures. Macewen uses the whole sac to plug the internal opening. Barker divides the neck of the sac after having ligatured it high up, but does not dissect out the fundus. He pulls the stump by means of the ligature that he has already placed round it to the internal opening, and, after having brought the ligatures through the internal pillars, from within outwards, he manages, by tying them, to approximate the sides of the canal.

OBJECTIONS TO THESE OPERATIONS.

After a very varied experience, I have come to the conclusion that even Mr. Barker's operation, which, to my mind, is the best of those quoted, can be improved upon. My objections to the methods advocated by other surgeons lie, first, in their leaving the stump in the canal; and, secondly, on their relying on ligatures to hold its margins together, feeling convinced that where a cure is effected it is the result of plastic inflammation and its resulting adhesions. I cannot see any advantage to be gained by dissecting out the fundus of the sac. In congenital herniæ it must be allowed to remain to form a tunica vaginalis, and in the acquired herniæ it has generally developed so many adhesions that its dislodgment, in my opinion, causes an unnecessary amount of disturbance to the tunica vaginalis and its contents, leading, in many cases, to severe orchitis.

THE OPERATION PROPOSED.

I have adopted a method of keeping the stump at least two inches from the inner ring. Having freed the *vas deferens*, a long, strong, carbolised gut or sterilised silk ligature is tied round the neck of the sac; a second ligature of finer material is placed about a quarter of an inch lower down, and the neck of the sac divided between the two. I then introduce the index finger of my left hand as far as possible up the inguinal canal, anterior to the peritoneum, and having satisfied myself that no important structures lie between the tip of it and the

* Since reading this paper, a small nodule of recurrence was observed, this has been removed and the patient is now free from disease.

N.C.	Name.	Age.	Variety of Hernia.	Complications (if any).	Date of Operation.	Result.	Remarks.
1	J. G.	30	Acquired oblique inguinal, 12 months	None	1888 Sept. 19	1888 Cured; Oct. 15	A good deal of suppuration in the wound, but confined to the superficial structures; otherwise an uninterrupted recovery. Silk ligature used to fix neck of sac, and also to sew margins of canal together.
2	W. W.	26	Bubonocoele, 2 years	Undescended testicle in inguinal canal	Oct. 4	" Nov. 28	Testicle excised. Silk ligature.
3	J. F.	26	Oblique inguinal acquired	None	Nov. 1	" Dec. 9	Slight orchitis, causing a rise of temperature for a few days. Silk ligature.
4	A. F.	24	"	"	Nov. 23	" Feb. 21	Escaped from hospital on the third day after operation; brought back; although he had walked two miles he made a complete recovery. Silk ligature.
5	T. K.	17	Strangulated omental hernia	Undescended testicle	1889 Feb. 6	" Mar. 3	Testicle excised; slight suppuration in superficial wound, necessitating the removal of a few of the horsehair sutures. Silk ligature.
6	H. R.	34	Acquired oblique	None	Apr. 20	" June 2	Slight orchitis delayed recovery for about ten days; some vomiting, the result of slight gastritis. Silk ligature.
7	S. P.	16	"	Irreducible	June 23	" Aug. 2	Silk ligature. Some suppuration.
8	A. G.	14	"	None	Aug. 28	" Sept. 21	Catgut ligature to fix neck of sac to abdominal wall, and silkworm gut to approximate pillars of the ring. Slight orchitis. Catgut ligature.
9	W. D.	28	Acquired oblique, 4 years	"	Sept. 17	"	
10	S. M.	23	Acquired oblique, 8 years	Large mass of omentum with the intestine	" 24	" Oct. 30	The mass of omentum was ligatured and cut away. Catgut ligature.
11	J. H.	26	Acquired oblique, 9 months	Cannot be kept back by truss	Oct. 11	" Nov. 9	Had managed to keep hernia back with a truss until a month before admission, but it became so painful that he preferred to undergo operation. Catgut ligature.
12	N. S.	73	Acquired oblique	An immense omental hernia	1890 Feb. 11	" Mar. 9	Chronic bronchitis, which improved during his enforced rest in bed. Catgut ligature.
13	S. E.	23	Acquired oblique, 7 months	None	Mar. 19	" April 13	Small stitch abscess; one suture removed; healed well. Gut suture.
14	W. W.	38	Double oblique inguinal—left, 7 years; right, 14 years	Double oblique	April 29	" June 12	Operation on both sides; uninterrupted recovery. Silk suture, the very strong gut not being obtainable in the hospital.
15	R. B.	22	Acquired oblique right inguinal	Varicocele on left side	June 18	" July 26	
16	B. C.	26	Acquired oblique inguinal, 12 months	Irreducible	July 12	" Sept. 2	A little difficulty with adhesions; made a good recovery.
17	E. V.	52	Acquired oblique inguinal, 2 months	Cannot wear truss	Sept. 3	" Nov. 15	Considerable hematoma in scrotum night of operation; clot cleaned out; small vessel ligatured; good recovery.
18	A. G.	33	Acquired oblique inguinal	None	"	" Dec. 20	Retention of urine; constant catheterisation produced cystitis; perineal section; convalesced in 3 months.
19	V. M. D.	10	Congenital-oblique inguinal	"	Dec. 15	" Jan. 15	1891 Although very strumous, made a good recovery.
20	N. O.	12	"	"	1891 Jan. 20	" Feb. 27	When the nurse was out of the room he got out of bed and came downstairs two days after operation; it did not affect the result, which was quite satisfactory.
21	W. L.	38	Acquired oblique inguinal	Irreducible	" 27	" Mar. 13	A good deal of suppuration in wound; complained of great pain for several days; sudden cessation; rapid healing.
22	A. M.	25	Acquired oblique inguinal, 5 years	None	Feb. 5	" 7	Was jumped upon by roughs and otherwise maltreated 2 months after operation; his medical attendant, Dr. Weigall, tells me he has no return of hernia.
23	J. T.	58	Acquired oblique inguinal	"	" 8	" May 15	Left testicle sloughed out; every care was taken with sac during operation; a large scrotal abscess had to be opened five days after operation; is now quite well.
24	B. I.	9	Congenital oblique	"	" 15	" Mar. 12	
25	J. H.	16	Acquired oblique	"	Mar. 24	" April 30	Slight suppuration.
26	M. G.	8	Congenital oblique	"	April 13	" May 25	Orchitis for about ten days.
27	W. H.	60	Acquired oblique, 30 years	"	May 11	" July 9	Scrotal hematoma; lower stitches removed, clot washed out; then made good recovery.
28	M. G.	17	Acquired oblique	Irreducible	" 19	" June 13	Cord much wasted, a little difficulty in separating it; suppuration in superficial stitches.
29	J. B.	8	Congenital oblique	None	" 19	" 18	
30	H. H.	31	Acquired direct inguinal	"	" 26	" July 12	Opening very large; some difficulty experienced in approximating the margins. Two strong silver wires were used to take the strain off the silkworm gut.
31	C. M.	15	Acquired oblique inguinal	"	June 3	" 5	The rupture in this case was produced by whooping-cough. Slight bronchitis two days after operation, lasting for six or seven days. Good recovery.
32	T. T.	58	"	"	" 10	" 24	A large mass of omentum ligatured and cut away.
33	J. F.	16	Congenital oblique inguinal	"	" 17	" 27	
34	S. C.	11	Congenital oblique	Undescended testicle in canal	July 20	" Aug. 23	Radical cure, testicle excised.
35	W. M.	30	Acquired oblique omental	None	" 20	" Sept. 3	Stitch abscess which gave rise to some pyrexia; abscess opened; good recovery.
36	J. R.	31	Acquired oblique	"	" 27	" 29	Retention of urine for four days.
37	F. H.	44	"	Irreducible	Aug. 3	" 22	
38	W. S.	38	"	Very large	" 10	" 12	An immense hernia. The sac was accidentally opened during the dissection down to it; a large coil of intestine came out, and was with difficulty replaced during the freeing of the sac; made a good recovery.
40	R. S.	31	Double acquired oblique	Double	" 24	Left side cured; Oct. 5	The left side done first; some signs of shock; right operated on two months afterwards.
41	R. S.	31	Acquired oblique right inguinal	Left side was operated on 2 months ago	Oct. 23	Cured; Nov. 26	Healed by primary intention.
42	S. G.	22	Acquired oblique inguinal, 12 months	None	1892 Jan. 19	" 1892 Feb. 13	Healed by primary intention.

No.	Name.	Age.	Variety of Hernia.	Complications (if any).	Date of Operation.	Result.	Remarks.
43	C. D.	39	Acquired oblique inguinal	None	1892 Mar. 2	1892 Cured; April 9	Very slight suppuration.
44	R. C.	27		Varicocele	" 2	" " 16	A radical cure of hernia and varicocele.
45	R. R.	21	Acquired oblique bubo-nacele, 8 months	None	" 29	" " 27	Played in a football match two weeks after leaving the hospital with no support but a spica bandage, put on by Dr. Schlesinger, of St. Kilda.
46	B. W.	29	Acquired oblique inguinal	Irreducible	April 1	" May 9	—
47	A. M.	23	Acquired oblique inguinal, 12 months	None	" 12	" June 2	—
48	E. S.	50	Acquired oblique, 20 years	Very large	" 17	" May 28	Large piece of omentum ligatured and removed.
49	G. M.	66	Acquired oblique inguinal, 43 years	Irreducible complicated with double hydrocele	" 20	" June 14	The radical cure of hernia having been performed, a portion of each tunica vaginalis was sliced out to effect the cure of the hydrocele. Discharged from hospital quite well 7 weeks after operation.
50	J. S.	30	Double acquired oblique	Double	May 3	" " 21	Double operation. Free suppuration on both sides lasting for a fortnight. Good recovery.
51	F. K.	4	Congenital oblique	None	" 13	" " 15	—
52	M. M'C.	33	Acquired oblique inguinal	Strangulated for 11 hours	" 14	" " 24	Several attempts at taxis had been made, and the part was much inflamed. The constriction was in the neck of sac. Radical cure performed. Bowels acted 2 hours after operation.
53	J. M.	20	Acquired oblique inguinal bubonocoele, 9 months	None	July 12	" Aug. 14	Union by primary intention.
54	F. B.	30	Acquired oblique inguinal hernia, 12 mths.	"	" 19	" " 20	Slight orchitis.
55	W. E.	26	Acquired oblique bubonocoele, very small, 2 months	"	" 19	" " 26	Complained that a truss made him feel sick, and even caused him to vomit at times. The hernia had not left the canal.
56	V. W.	27	Acquired oblique inguinal	Irreducible	" 26	" " 30	—
57	A. J.	47	"	None	Aug. 3	" Sept. 12	Slight orchitis.
58	W. C.	33	"	"	" 8	" " 6	Healed by primary intention.
59	B. W.	1½	Congenital oblique inguinal	Very large	July 15	" Aug. 8	Healed by primary intention. Neck of sac fixed at a point 2 inches above the internal ring.
60	H. D.	7	Congenital oblique	None	Aug. 13	—	Sept. 9th, 1892, wound quite healed; will be discharged in a few days.

abdominal parietes, I make an incision—through the skin only—from without, at a point corresponding with the tip of the finger on the inside; and this is the point I select for fixing the stump, which is in most cases from two to two and a-half inches above the internal abdominal ring. A guarded needle threaded with one of the long sutures attached to the neck of the sac is now passed up the canal on the finger to the point selected for fixing the stump, and driven through the parietes. The needle, having been unthreaded, is withdrawn, to be threaded again with the other end of the ligature, and is reintroduced up the canal and brought out at a little distance from the first. The two ligatures are then firmly tied, the ends cut off, and the sac is thus secured. A decalcified bone drainage tube is now introduced into the canal, and the margins are laced together over it with silk-worm gut ligatures. The superficial wound is brought together with horsehair, and an antiseptic wool pad applied with a spica bandage. The plastic inflammation resulting from this procedure causes a sufficient narrowing of the canal to prevent the recurrence of a hernia. The neck of the sac which had moulded itself to the canal is removed to a safe distance, and cannot encroach upon the orifice during the process of narrowing, and new structures overlie the internal opening. The bone drainage tube, lying as it does alongside of the vas deferens, prevents any undue pressure being made upon it when the margins of the canal are laced together, and its pressure causes an aseptic irritation favouring a mild inflammatory process, and at the same time acting as a drain should drainage be necessary.

CASES.

CASES V and LII were strangulated at the time of the operation. The condition being favourable for the return of the contents of the sac into the abdomen, the radical cure was also done, and complete recovery followed.

CASE XII is interesting on account of his age, 73 years. He made an uninterrupted recovery, and was discharged cured five weeks after operation.

CASE XIV was a complicated one of double oblique inguinal hernia, that on the left side of seven years', that on the right of fourteen years' standing. The double operation was performed upon him on April 29th, 1890, and I see by the hospital casebook he was discharged cured on June 12th, 1890.

CASE XXII.—Left inguinal hernia (irreducible), private case with Dr. Weigall; two months after operation got into a scrimmage and was jumped upon and otherwise maltreated by two roughs while he was under the influence of alcohol. His medical attendant states that he has not had the slightest sign of the return of hernia.

CASE XXIII, aged 58, I operated upon with Dr. Weigall, of Elsternwick and although the greatest care was taken in freeing the vas deferens, the testicle on that side sloughed out; otherwise he made a good recovery, and works in his garden without any inconvenience.

CASES II, V, and XXXIV were complicated with undescended testicle. In each the testicle was excised and they made a good recovery.

CASE XLV proves the value of the operation without a doubt. The hernia was complicated by an immense varicocele; the radical cure of hernia and that for varicocele were performed on March 29th, 1892, and he was discharged cured on April 27th, 1892, two days less than a month. This patient, a footballer, played in a first-class match for the St. Kilda Club two weeks after leaving the hospital, and now plays regularly. Dr. Schlesinger, of St. Kilda, who put the case under my care, has had several opportunities of examining him since, and assures me that there is not the slightest sign of any return of the hernia.

CASE XLIX, aged 66, had an oblique irreducible inguinal hernia of forty-three years' standing, complicated with double hydrocele. The radical cure of hernia and also the radical cure of hydrocele—that is, slicing away a portion of the tunica vaginalis—were performed on April 20th, 1892, and he was discharged cured on June 14th, 1892.

CASE LIX, an infant, aged 14 months, is most interesting. He had an immense oblique congenital hernia; the ring was large enough to admit my two fingers. I fixed the stump nearly midway between Poupart's ligament and the umbilicus. Seven weeks after the operation he ran about without any sign of recurrence. The Hon. Dr. W. H. Embling, whom I have to thank for this very interesting case, informs me that the patient is now perfectly well.

OPERATIONS IN YOUNG CHILDREN.

With regard to the age at which it is advisable to operate, I am of opinion that when the rupture is so large as to affect the child's health, or that a truss cannot be borne, the operation may be safely undertaken at twelve months. I cannot see why, with ordinary care, there should be any difficulty in finding the vas deferens in so young a patient, and the chances of success ought certainly to be hopeful in structures so favourable for healing.

THE death is announced of Dr. James David Rowlands, of Carmarthen, M.R.C.S. Eng. Dr. Rowlands was forty-nine years of age, and succumbed to the sequelæ of pleurisy. He was appointed coroner for the Carmarthen Borough in July, 1891, and subsequently coroner for the Liberty of Kidwelly, in which district he had acted as deputy for his father, Dr. James Rowlands, for many years.

PRESENTATION.—On November 28th, Dr. G. Gore, of Cad-oxton, was, on the occasion of his departure to Chester, presented with a purse of money as a token of the high appreciation in which he is held throughout the district.