When the bladder is very small and rigid from repeated attacks of cystitis and the prostate is very hard and dense the former method is indicated. Under all other conditions the prostate, as from the nature of its surroundings it must grow up towards and into the bladder, is best approached through the bladder. 14 years ago McGill advocated and performed this operation and though various modifications have been introduced since then it remains in all essential details the same. McGill described how the growth was to be enucleated with the finger after dividing the mucous membrane of the bladder and himself enucleated and exhibited both lateral lobes removed in this way. In 1892,[2] in the Hunterian Lectures delivered before the Royal College of Surgeons of England, I pointed out that "if the operation is to prove successful it resolves itself into removing the whole of the vesical mass, whether it springs from the lateral lobes, or is an upgrowth from the posterior wall, or is a detached nodule, and then extending the exploration down the whole length of the prostatic urethra," and I cited some instances in which the operation had proved, or nearly proved, a failure because the growth had not been followed down the prostatic urethra. That was the operation I performed then, following McGill's directions; it is the operation that I have continued to perform since, it is the operation that is performed now generally, and it is one that I can thoroughly recommend for these cases. A certain amount of confusion, it is true, has been caused by erroneous description of what has been called the capsule of the gland. But it has been conclusively shown by Shattock and Wallace that the covering on the enucleated masses is a pathological product formed around those masses out of the surrounding tissues by the way in which they press upon them and condense them in their growth. The larger and the more lobular the masses of which the enlarged prostate is composed the more easily can they be shelled out, because of this fictitious capsule which they form around them; and there can be no doubt that for this form of enlargement this method of operating will not only supersede all others but will do away with the treatment by habitual catheterisation for which these cases are by no means suited. Only if the prostate in addition to being enlarged from glandular over growth is in a state of intense congestion, this must be allowed to subside first under the influence of the constitutional treatment to which I have already alluded, and the patient must be warned that if the muscular coat of the bladder has been ruined already by catheterisation and cystitis, removal of the enlarged prostate cannot restore it, though it will help it by rendering its work more easy.

Wimpole-street, W.

A CASE OF CHRONIC INTUSSUSCEPTION; EXCISION OF 42 INCHES OF SMALL INTESTINE; RECOVERY.[1]

BY F. C. WALLIS, B.A., M.B., B.C. CANTAB., F.R.C.S. ENG.,

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A HEALTHY looking married woman, aged 32 years, was admitted into Charing Cross Hospital on April 14th, 1903, suffering from intestinal colic. She was in perfect health until May, 1901. Previously to this she had never had a day's illness in her life. The bowels always acted with great regularity and aperients were rarely necessary. She had never suffered from diarrhœa. The present illness began in May, 1901, with a sudden onset of most acute pain in the abdomen (there was no cause for it as far as she knew). The pain was of a colicky character but was not sufficiently bad to make her take to bed until the end of the week when the attacks became more frequent and vomiting commenced. Food always excited the colic and vomiting always followed it. She described an attack as a "general turning round-and-round feel in the stomach, followed quickly by vomiting." This attack lasted for three weeks and she was in Guy's Hospital for the latter part of it. After this she was perfectly well until August, 1901, when she had a similar attack and there was a third attack in September, 1901. These attacks resembled the first except that the bowels were obstinately constipated for three or four days. When the bowels acted she was much relieved and the attack would generally pass off. There was no constipation at the beginning of an attack but pain and vomiting preceded it for three or four days. After the third attack she continued well until June, 1902, when there was another attack, since when there had been many milder in degree but all similar in character to the first. She had never passed any blood or mucus in the motions. The abdomen never became swollen and pressure neither increased nor relieved the pain. No tumour had been felt. She was admitted into the medical ward of Charing Cross Hospital during one of these attacks of pain and was in for five days, leaving on April 18th, 1903, apparently quite well. She was re-admitted on April 22nd for another attack of pain, during which vomiting was more or less continuous; it was bile-stained but not offensive. The abdomen was lax and not tender (this condition existed during all these attacks). On the 25th an indefinite mass was felt below and to the left of the umbilicus.

It was decided that unless a distinct improvement took place in the next 24 hours an exploratory laparotomy should be performed. As the patient was no better—in fact, getting weak—I operated at 11 A.M. on the 25th. When the patient was under the anæsthetic a large freely moveable mass could be felt in the left umbilical region. The abdomen was opened in the mid-line below the umbilicus by an incision which was lengthened to five inches in all. The palpable mass was an intussusception involving small intestine only. The length of bowel involved amounted to three feet six inches. The proximal gut was materially distended. An unsuccessful attempt was made to reduce the invagination and enterectomy was decided upon. Whilst lifting the involved gut out of the abdomen the distal end tore like a piece of wet blotting-paper close to the end of the intussusception and it was noticed that this part of the bowel was much inflamed. The intestinal contents were expressed at either end and Lane's intestinal clamps were applied on healthy bowel. The bowel was divided first at the upper end and the mesentery was cut through parallel to the intestine, the vessels being clamped as they were cut. The intestine was divided at the lower end and the two ends were united with a Murphy's button. A few Lembert sutures were put in in addition and the cut edges of the mesentery were sewn together with silk sutures, the vessels being ligatured with silk also. Some hæmorrhage found its way between the layers of the mesentery. The parietal wound was closed by one row of separate fishing-gut sutures. The operation lasted for one hour. The patient stood it very well and her pulse was 120 at the end. One pint of beef-tea was given by the rectum. There was practically no shock from the operation.

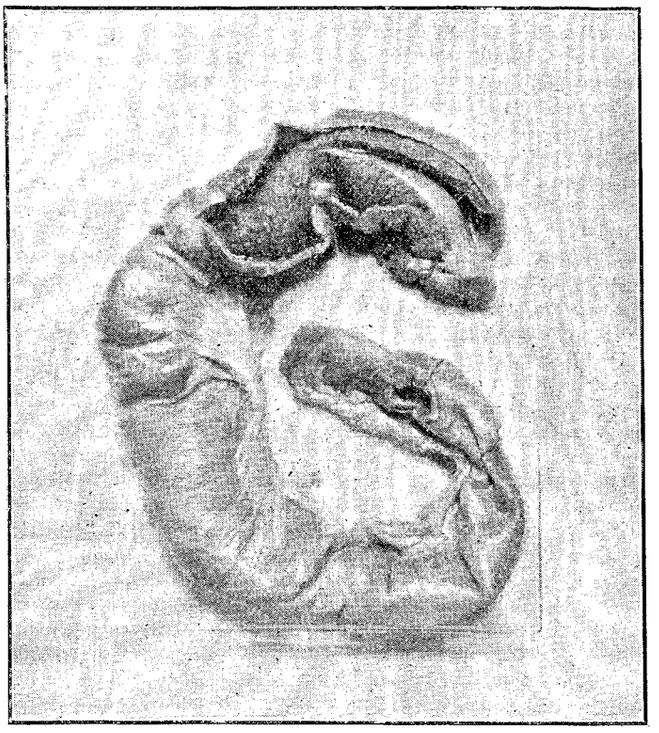
The patient was nourished by rectal enemata only for two days; on the third day small quantities of plasmon and thick barley-water were given by the mouth and on this day the bowels acted twice, the motions being well formed. The food by the mouth was gradually increased and the rectal feeding was discontinued, the stitches were removed on the eighth day, and everything went very well indeed until May 15th (three weeks after the operation) when the patient had an attack of pain similar to those she had previously suffered from: paroxysmal colic with intervals free from pain. Chloroform was administered and on palpating the abdomen I could feel the button in what I thought was the descending colon. It was quite easily pushed down into the pelvis but it could not be reached by the rectum. No button was passed and the pains continued. On May 18th the button was seen by the x rays to lie on the outer side of the right rectus, two inches above the inlet of the pelvis. On the 19th I reopened the abdomen and found the button about four inches above the ileo-cæcal valve; it could not be passed on into the colon so I removed the button through a longitudinal incision which was sewn up transversely. From this second operation the patient made a perfect recovery and left the hospital quite well on June 10th. I saw her recently and she was in the best of health.

The following is the pathologist's description of the specimen: "No. 1223. Enteric intussusception in adult. 42 inches of small gut excised. A portion of small intestine, 67 centimetres (26½ inches) of which forms the outer

[2] THE LANCET, June 4th (p. 1229), 11th (p. 1287), and 18th (p. 1354), 1892.

[1] A paper read before the Clinical Society of London on Nov. 27th, 1903.

coat (intussuscipiens) of an intussusception which has been greatly reduced, a double layer 18 centimetres (seven and a quarter inches) now remaining invaginated. The apex of the intussusceptum shows considerable reddening and is thickened from inflammation and œdema. The returning sheath is greatly thickened. The indrawing of the mesentery sheath is well shown. The outer coat is considerably



Intussuscepted portion of gut removed.

dilated and somewhat irregularly thickened. Here and there congested vessels may be seen. Eight centimetres (three inches) from the lower end is an oval opening two centimetres in diameter which seems to have been torn as its edges are irregular; microscopically the gut near the orifice is in parts quite healthy, in others swollen and infiltrated with round cells."

When the intussusception was first exposed and before the mesentary was divided the apex of the intussuscepted part was close up to the inflamed part of intestine which tore apart when the intestine was lifted out of the abdomen—but after removing the intestine the intussusception slid back to its present position, although when *in situ* it was quite impossible to reduce it in the slightest degree.

The *contretemps* with the Murphy's button was unfortunate. It is the only time that I have ever had any trouble and I have used these buttons now in a large number of cases. It was due to the fact that I put in a button somewhat larger than the size generally used for small intestine. My reason for doing so was that the proximal end of the intestine was considerably distended and the slightly larger button made approximation easier. It did not occur to me at the time that there would be any difficulty in the passing of the button and ordinarily speaking I do not think that there would be any difficulty in its passage. In an urgent operation of this magnitude time was of the greatest consequence and I do not know any other means by which the two ends of the intestine could be so rapidly and securely brought together. The main part of the time taken (one hour) was spent in cleaning the skin of the abdomen, removing the intestine, tying a large number of vessels, and uniting the widely separated ends of the mesentery. The sewing in and clamping of the two ends of the button did not take more than five minutes.

Why the gut should have torn in the way it did was a matter of some speculation and a microscopical examination of the torn edge showed only inflammatory infiltration. I believe the softening of the intestine here was due to interference in the blood-supply and there is no doubt that perforation would have occurred at this spot very soon.

As to the cause of the intussusception there is nothing to show that it was due to anything but an irregular action in the muscular wall of the intestine. Cases of chronic intussusception are not uncommon but one such as this is, I think, worth recording. The points of interest are: (1) the length of time (over two years) which it lasted; (2) the excellent health of the woman between the attacks and, I am glad to say, since the operation; (3) the large amount of small intestine involved (most cases of chronic intussusception have to do with the large intestine); (4) the fact that no tumour was felt with any certainty until the patient was anæsthetised; and (5) there was no exciting cause such as growth, tumour, or ulceration which is commonly the starting point in cases of chronic intussusception.

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ADAPTATION AND COMPENSATION.[1]

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THE title which has been chosen for this communication may savour of diffuseness and it might have been better to qualify it in some way so as to denote its meaning more definitely. My intention is primarily to bring before the society some illustrations of adaptation and compensation and although certain generalisations will be inevitable, yet in so far as possible it will be my aim to avoid them. The choice of the subject has been somewhat fortuitous. When making a fresh study last winter of acromegaly and gigantism some very interesting appearances, only to be explained by compensatory processes, forced themselves upon my attention and turned my thoughts strongly in this direction—a direction in which a great deal of my previous work has lain. When looking about for some theme that might prove interesting to the society it therefore naturally occurred to me that the subject might not unprofitably occupy us during part of this evening.

Let me, by way of preface, bring out very shortly one or two points in regard to the adaptations which may be seen in acromegaly. The accompanying illustrations demonstrate in the most graphic fashion the enormous increase which occurs in the lower part of the face, and more particularly in the inferior maxilla. This is shown in the photographs taken from life, but the most interesting points are to be ascertained from the skulls of such patients after death. In the beautiful photographs reproduced in Figs. 1 and 2, kindly furnished by Professor D. J. Cunningham of Edinburgh, the enormous preponderance of the lower maxilla is clearly shown and a photograph of the vertex of the skull (Fig. 3) shows that the temporal ridge has risen greatly towards the vertex. Similarly, in Figs. 4 and 5, for which my thanks are due to Professor A. F. Dixon of Dublin, the huge size of the lower jaw is well shown, and in Fig. 6 the temporal ridge is even more distinctly brought out than in the other skull as vastly increased. Now there is only one possible explanation for these appearances. In consequence of the increased weight of the jaw the temporal muscle has more work to perform and it has therefore undergone hypertrophy. That this is the truth may easily be ascertained by comparing the head of a young child with that of acromegaly and it is still further proved when such a skull is contrasted even with the highest of the anthropoid apes, in which there is a direct ratio between the heavy jaw and the large temporal muscle.

In another direction most marvellous adaptations are to be found when we study congenital affections of the heart. The consideration of the changes which occur at the period of birth would prepare us for wonderful possibilities of adaptation. Let me, by way of example, cite one interesting fact which has been emphasised by Gérard.[2] Up to the moment of birth the diameter of the ductus arteriosus exceeds that of the pulmonary arteries, the difference, according to him, varying by one, two, or even five millimetres. By the eighth day the arterial duct is practically closed and the pulmonary arteries have rapidly increased to a diameter much exceeding that of the closed or closing duct. In the case of cardiac malformations we have a most

[1] A paper read before the Medical Society of London on Oct. 12th, 1903.

[2] Gazette des Hôpitaux, Paris, 1899, année lxxii., p. 178.