1855-1867 (13 years).					
15-25	116,474	4,023	5,731	2.66	3.78
25-35	368,487	6,624	11,880	1.38	2.48
35-45	192,979	3,533	10,493	1.41	4.18
45-55	8,623	156	604	1.39	5.39
15-55	686,563	14 336	28,708	1.61	3.22

TABLE XXXIV—Showing Estimated Number of Women Bearing Children and Causes of Death at Various Ages, for 1855-1857 (three years).

Ages.	Estimated number of women bearing children, 1851.	Deaths.					Annual rate of mortality from "accidents of child-birth" per 1000 mothers.				
		Placenta prævia and flooding.	Puerperal mania.	Puerperal convulsions.	Rupture of uterus.		Placenta prævia and flooding.	Puerperal mania.	Puerperal convulsions.	Rupture of uterus.	
15-25	107,440	127	52	295	10		0.68	0.28	1.58	0.05	
25-35	328,720	458	119	213	44		0.91	0.24	0.42	0.09	
35-45	166,140	561	42	106	46		2.22	0.17	0.42	0.18	
45-55	7,545	35	4	6	2		2.82	0.32	0.48	0.16	
15-55	609,845	1181	217	620	102		1.23	0.23	0.65	0.11	

1855-1858 (four years).					
15-25	107,440	166	72	390	12
25-35	328,720	632	169	270	61
35-45	166,140	784	95	152	56
45-55	7,545	48	4	8	2
15-55	609,845	1630	340	820	131

1855-1859 (five years).					
15-25	107,440	220	102	481	16
25-35	328,720	836	215	342	78
35-45	166,140	1014	80	183	61
45-55	7,545	61	4	11	3
15-55	609,845	2101	401	1017	158

Remarks.—Flooding increases rapidly with age and so does rupture of the uterus. The organs wear out. Puerperal convulsions are much more fatal in the first period (from 15 to 25 years of age). The muscular irritability is greatest. Puerperal mania is probably of most frequent occurrence in the first period but most fatal in the last period.

THE
DIAGNOSIS OF TUMOURS IN THE UPPER
RECTUM AND SIGMOID FLEXURE BY
MEANS OF THE ELECTRIC
SIGMOIDOSCOPE.

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THE human mind is so constituted that we always experience a certain pleasure when we have succeeded in obtaining access to some spot hitherto difficult or impossible to explore. And in medicine and surgery the perfection of a method by which we are enabled accurately to explore hitherto inaccessible portions of the human body always arouses our interest and helps to perfect our art.

The accurate diagnosis of tumours in the upper part of the rectum and in the sigmoid flexure has hitherto been difficult and unsatisfactory. This is principally because it has not been possible to obtain direct evidence of their presence in these regions and the diagnosis of such tumours

has in most cases had to be made almost entirely from the symptoms. A tumour high up in the rectum or in the lower loop of the sigmoid flexure is quite out of reach of the finger and is not palpable through the abdominal wall, even under an anæsthetic, unless it be of considerable size. Occasionally such tumours can be detected by a careful bimanual examination when the patient is under an anæsthetic and the abdominal walls are well relaxed. As a rule, however, the diagnosis has to be made from the symptoms. This is unfortunate, as commonly symptoms sufficiently definite to enable a diagnosis of rectal new growth to be made are not present until the growth has reached a considerable size and probably ulcerated into the bowel; that is to say, until the most favourable period for its removal has passed. Even when the diagnosis of a tumour in the upper rectum or sigmoid flexure can be made from the symptoms it is still only possible to say that such a growth exists and we are ignorant as to the exact position of the growth and as to whether it is fixed or moveable, and are therefore unable to ascertain without opening the abdomen whether it can be removed.

What has been wanted is a method by which we can not only detect the presence of a growth in this region but also ascertain its position, nature, and mobility. The introduction of Kelly's rectal tubes to some extent solved this difficulty but the long Kelly's tube has several disadvantages. It is often very difficult to pass and there is danger in passing it that the end may cause injury to the wall of the bowel, especially as in some of the cases where the growth has ulcerated the walls may be rotten and easily torn. In some cases it is impossible to get the bowel to inflate properly after the tube is passed and unless the bowel is inflated nothing can be seen except the mucous membrane in contact with the end of the tube. Again, it is very difficult to obtain any proper illumination of the bowel at the end of so long a tube, and although the short Kelly's tubes have proved very useful the long ones have not proved to be of much practical value.

Recently several improved sigmoidoscope tubes have been made. The best of these was invented by Professor Strauss

FIG. 1.

of Berlin. This tube is shown in Fig. 1. It is 30 centimetres long and about two centimetres in diameter. There is an electric lamp inside the tube and about one

inch from the end. The back end of the tube is closed by a glass window and there is a tap to which an indiarubber bellows can be attached so that the bowel can be inflated. This instrument is in many ways a great improvement upon its predecessors. Some of the earliest electric sigmoidoscopes were not sterilisable, as the electric light and connexions were an integral part of the tube. In this instrument the lamp can be removed and the tube sterilised in the ordinary way. One of the great features of this sigmoidoscope is the method of passing it; practically speaking, after the tube has passed the first six inches the tip does not touch the rectal wall; it is therefore impossible for the tube to cause any damage to the wall of the bowel, however diseased the latter may be. The tube is passed as follows. The patient is placed in the knee-elbow position or in the semi-prone position with the buttocks raised on a cushion. The lamp portion of the tube is removed and the obturator inserted. The tube is then warmed by holding it for a moment in a stream of hot water—this is better than dipping it into water as the interior of the tube is not wetted—and then thoroughly vaselined. The tube is passed gently into the rectum for about six inches; the obturator is then removed and the lamp and back glass are inserted. If on looking into the tube the mucous membrane is seen to be in contact with the end the rectum is inflated by a squeeze of the bellows so as to push away the mucous membrane. The tube is then pushed into the hollow of the sacrum by tilting the point upwards; this enables the point of the tube to clear the anterior rectal valve. It must then be tilted downwards so as to clear the sacral prominence and enter the last loop of the sigmoid; it is also usually necessary to turn the point slightly to the right side. The tube should be passed by looking for the lumen of the gut and when this is seen giving a light puff with the bellows so as to open up the bowel, the tube being then pushed into the dilated portion. This procedure is repeated until the tube has been passed to its full length. A lot of air should not be pumped into the rectum, as this will cause the patient considerable discomfort, but the bowel should be inflated by light puffs with the bellows so as to push aside the walls of the bowel in front of the tube. Sometimes if the growth is on the anterior wall of the bowel it may be passed over during the passage of the tube without being seen, as one naturally follows the posterior wall while passing the tube. While withdrawing the tube, however, the whole lumen of the bowel comes into view and any growth is easily detected. When a growth is seen its position and size are easily ascertained and by pushing it gently with the end of the tube one can tell whether it is fixed or moveable.

It is possible with this instrument to obtain a view of the bowel as high as the top of the sigmoid flexure, though the distance to which one can pass the tube depends very much upon the mobility of the sigmoid flexure and upon its having a long mesentery. In one case in which there was an atonic condition of the bowel I was able to see well into the descending colon, but I believe that this is only possible in exceptional cases. By removing the window at the back of the tube and passing suitable instruments down it applications may be made to the growth or even pieces removed for microscopical examination. It is very important not to remove the window until the air pressure in the tube has been reduced, otherwise the sudden rush of air may prolapse the mucous membrane into the end of the tube and injure it. It needs a certain amount of practice before this instrument can be used satisfactorily. In this respect it resembles the cystoscope, laryngoscope, ophthalmoscope, &c., all of which need practice not only in using them but in interpreting what is seen before their real value can be appreciated. The passage of the sigmoidoscope is not in the least painful and but slightly uncomfortable; it is not necessary to administer an anæsthetic. The following case demonstrates very well the value of this method of diagnosis.

The patient was a man, aged 71 years. When I first saw him he complained of constant diarrhoea and the passage of blood and slime by the rectum. He stated that these symptoms had only developed during the last two or three months and that he had previously been in good health. From his symptoms it seemed almost certain that he was suffering from a carcinoma of the rectum. On examining the rectum with the finger nothing could be felt and on examining with a six inch rectal tube nothing could be seen. Palpation of the abdomen and a bimanual examination also

gave negative results, although the abdominal walls were very lax. As I felt certain that there must be a growth somewhere either high up in the rectum or in the sigmoid flexure I examined him with the sigmoidoscope a week later at St. Mark's Hospital. I was then able to see the growth, which was of about the diameter of a two shilling piece; it was situated on the anterior wall of the bowel at the lower end of the sigmoid flexure and on gently pressing it with the end of the tube I was able to ascertain that it was moveable. About a week later, while the patient was making up his mind as to whether he should submit to an operation, symptoms of intestinal obstruction appeared and he was admitted into the West London Hospital where he was operated upon by Mr. C. R. B. Keetley who, knowing that I was interested in the case, kindly asked me to be present at the operation. On opening the abdomen the growth was found to be exactly as it had been diagnosed by means of the sigmoidoscope. It was found to be removeable but considering the patient's condition Mr. Keetley very wisely decided to perform a preliminary colotomy. The appearance of the growth as seen through the sigmoidoscope is shown in Fig. 2. Fig. 3 shows the appearance seen in another case of medullary carcinoma of the sigmoid flexure.

FIG. 2.

Appearance of the growth seen through the sigmoidoscope.

FIG. 3.

Medullary carcinoma of the sigmoid flexure of a man aged 39 years, seen through the sigmoidoscope.

I believe if all patients were examined in this way who complain of symptoms which may be the result of a new growth in the rectum or sigmoid flexure—such as the recent onset of obstinate constipation without obvious cause, the frequent passage of mucus or of blood and mucus, frequent colic only relieved by large doses of aperients, &c.—that many cases of malignant disease of the lower bowel would be detected at an early stage when complete removal is still possible, instead of the majority of such cases only being diagnosed when removal is very dangerous or altogether impossible as is the case at present.

Cavendish-place, W.

STRANGULATION OF THE FULLY DESCENDED TESTICLE FROM TORSION OF A PEDUNCULATED MESORCHIIUM.

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THE rarity of the above condition and the special features of this case are my excuse for publishing the following. I shall first briefly describe the case and shall then draw attention to some points in connexion with it.

The patient was a baby, aged seven months, who was brought to the out-door department of the Royal Hospital for Sick Children, Glasgow, on Sept. 10th, 1903, on account of swelling of the scrotum. The mother stated that the swelling had been observed on the previous day. No cause for the condition was known and it did not seem to trouble the patient in any way. On examination the left half of the scrotum was found to be much swollen, of the shape and size of a Tangerine orange, and very hard; the skin was bright red in colour, thickened and glazed, and hotter than the surrounding parts, and apparently acutely