fourth weeks the wounds become smoother and more linear, and there may then be noticed more or less contraction of the anal canal, the stenosis being most marked where the ligatures have been applied—that is, at the upper part of the wound. In six to eight weeks the anal canal feels fairly smooth, but a few subsiding tags may be present at the anal margin.

The day following the Whitehead operation there may be noted more or less ecchymosis into the perianal tissues and a little oedema at the anal margin. The fact that no vessels are ligated in this operation, and that the suturing of the mucous membrane to the skin edge controls the haemorrhage, accounts for the ecchymosis and oedema. By making the patient strain down one can see that the line of the suture is intact, or by gently inserting the finger the mucous membrane can be felt in close apposition with the skin. This condition goes on until the fourth day, when in 50 per cent. of the cases the sutures give and the mucous membrane retracts before the bowels are moved; in the other 50 per cent. retraction occurs when the bowels act or on the day following. Not one of the cases healed by first intention, and, though this may seem a startling statement, nevertheless I firmly believe that primary union never occurs after the Whitehead operation.

The giving of the sutures and the retraction is due to the tension on the wound, to the action of the sphincters, and perhaps to a little sloughing at the wound edge. It makes little difference what suture material is used. In the majority of these cases continuous and interrupted iodized catgut sutures were used, whilst in some silk and in others silkworm gut were tried. That the retraction is due to tension is supported by the fact that in the perineal and ano-sacral excision of the rectum the upper cut end of the rectum or of the pelvic colon may be implanted at the anal margin, and the sutures hold quite well. This occurs when the bowel has been made sufficiently free to be brought to the anal margin under no tension. It is well that the wound after the Whitehead operation does not heal by first intention, as otherwise exstrophy of the mucous membrane might occur, giving rise to excoriation, slight haemorrhage, pruritus, and troublesome discharge of mucus. Exstrophy did not occur in any of the cases under consideration. During the second week after the operation the circular ring of granulation tissue left by the retraction of the mucous membrane is felt to be distinctly granular. During the third week this area becomes smoother and smaller, and any tendency to contraction becomes evident. During the fourth and fifth weeks the mucous and skin edges come gradually into apposition, and the annular cicatrix feels quite soft if digital dilatation has been properly carried out. This cicatricial ring, if properly stretched when the fibrous tissue is still young, shows no further tendency to contract after the sixth to eighth week. Some of these cases have been seen a year afterwards, and the seat of operation feels quite smooth, or at most a fine fibrous ring is felt at the junction of skin and mucous membrane, but in none of the cases is there any stenosis which would cause difficulty in defaecation.

Choice of Operation.

It is better not to decide on any particular method of operation until the sphincters have been stretched, and then to use the method most suitable for the pathological condition presented.

The clamp and cautery operation should be chosen when there are not more than three piles, especially if they are of the internal variety and there are no external haemorrhoids or redundant skin. As it is likely to give less pain than the other operations, it should be chosen for patients of a very nervous temperament. As it is a bloodless method it is suitable for cases of anaemia. If time is an important question, either for the patient who may want to get back to important business, or in hospital where there is usually a large waiting list, the clamp and cautery method should be chosen, as the period of convalescence is considerably shortened. As stenosis never follows this operation it should be used in cases in which the surgeon may be unable to see the patient again after the operation.

The ligature operation is a good and safe method, and is applicable to the majority of cases of haemorrhoids. It is suited for those cases of three, four, or five piles, especially

of the mixed variety, when both external and internal haemorrhoids can be removed at the one cut. Though the conditions be less aseptic after this operation than after the others, it is a well-known clinical fact that sepsis rarely follows this operation.

The Whitehead operation is indicated in the following conditions:

(a) When there is a general haemorrhoidal condition involving the whole circumference of the anal canal, and especially if there is a good deal of prolapse, and also in cases in which there is extensive thrombosis.

(b) In cases where, though the piles may not be large, there is a pathological condition which may be described as a prefissure or a prefistula state. In this condition the anal valves are enlarged, and curious little blind sub-mucous pockets may be found running for a varying length upwards. In other cases these pockets run downwards towards the anal margin. These, first described by Mr. F. C. Wallis, and lately believed to be due to developmental defects, are undoubtedly in many cases the starting point of fistula; whilst, if Ball's theory be accepted, enlarged anal valves lend themselves to the formation of fissure.

The Whitehead method should not be employed in all cases of haemorrhoids, but is well suited for the conditions mentioned above. If the after-treatment is properly carried out, stenosis should not occur.

I have to thank Mr. F. S. Edwards and Mr. F. C. Wallis for their kindness in allowing me to publish this record of cases.

ACUTE NECROSIS OF THE PANCREAS: SUDDEN DEATH.

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INSTANCES of sudden death due to pancreatic haemorrhage are of such rare occurrence that the following case is worthy of record:

Mrs. J. D., a widow aged 61, was admitted to this asylum in February, 1908, suffering from melancholia of one month's duration. As far as I could ascertain, she had an excellent family history, both physically and mentally, her mother reaching the age of 80. At the birth of her first child she had an attack of melancholia, and my informant tells me that she also suffered from "milk fever" on that occasion; in 1886, at the birth of her last child, an exactly similar state of affairs occurred. Nine years ago she was suddenly taken ill during the night, complaining about her heart as though it would stop beating. Her extremities, her son says, were very cold, but as far as he can recollect there was no sickness. She has had since then three attacks of melancholia. Previous to the penultimate attack she contracted influenza.

Condition on Admission.

She was in very indifferent health, though there were no signs of any organic disease. She was put on tonics and extra diet for a time, and steadily improved in condition and health. Mentally her progress was not so rapid, but at the time of her death she was quite bright and cheerful, and it had been intended to discharge her very shortly. On August 12th, 1909, while in bed, she was suddenly taken ill at 1.30 a.m. with violent pains in the abdomen and sickness, and died within a quarter of an hour.

Necropsy.

The post-mortem examination, made the next morning, showed as follows:

External Appearances.—Cadaver in good condition; no bruises or other marks of injury present.

Head.—Calvarium normal; membranes normal; no macroscopic abnormality of the cerebral tissue; cerebro-spinal fluid scanty; arteries at base of brain very atheromatous and of small calibre, that of basilar at pons medulla junction being 3 mm. Right interior carotid, 2½ mm.; left, 2 mm. Middle cerebrials each 1½ mm. Distribution regular.

Thorax.—Ribs normal; no pulmonary congestion; some emphysema present. Heart not contracted, cavities containing more or less blood; slight fatty degeneration present. Aorta very atheromatous; valves competent.

Abdomen.—Here considerable effusion of blood into the tissue around the pancreas was at once apparent, but the peritoneal covering was not broken. Kidneys, liver, and spleen were congested. The stomach showed some catarrh, and the intestines were normal. Dimensions of cardiac orifices were: Mitral, 3½ in.; tricuspid, 4; aortic, 2½; pulmonary, 2½.

Weights of Organs.—Brain, 42 oz.; heart, 11; lungs—right 15½, left 21; spleen, 5; kidneys—right 3, left 4; liver, 52; pancreas, 4.

Pancreas.—There was a gangrenous area in the head of the organ, about the size of a filbert, from which it was evident the hæmorrhage had come; the whole gland was infiltrated with blood and the seat of marked rapid tissue changes; on the surface were numerous sandy grains consisting of calcium phosphate. There was no evidence of fat necrosis, nor of obstruction in the ducts.

This case is of great interest, both from a medico-legal and scientific point of view.

1. There was a more or less obscure history of a somewhat similar seizure occurring nine years ago.

2. The death was evidently syncopal; whether brought about reflexly by interference with visceral ganglia or the solar plexus, or due to the escape of pancreatic ferment in large quantities into the blood it is impossible to say.

3. The majority of these cases occur in males; out of Korte's series of 41 instances, only 4 were females.

4. The etiology is extremely obscure. In this case there were two facts which may have a bearing on it: (a) Marked atheroma, and (b) the peculiar deposit of calcium phosphate on the surface of the pancreas. Whether this is an instance of *post hoc* or *propter hoc* it is extremely difficult to say; its formation is well known to be associated with rapid nuclear disintegration, and its presence may be accounted for in that way. Personally, I am inclined to the *propter hoc* theory, as there were several very large granules near the broken-down portion of the organ, too large to be formed in this rapid manner, and also on account of the fact that the distribution of these grains of phosphates was not throughout the organ, but only superficially.

A CASE OF "CONGENITAL PYLORIC STENOSIS" SUCCESSFULLY TREATED WITHOUT OPERATION.

BY

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THE opportunities afforded of observing a case of so-called "congenital pyloric stenosis" from the very onset are surely uncommon. The subject of this paper is my own child, a little girl.

She was born on September 1st, 1908. Labour was natural. The child weighed at birth 7 lb., and was in every way normal. She was fed on the breast alone for three weeks, at the end of which time she began to be sick almost immediately after taking her feeds. Thinking modified cow's milk might suit her better, she was on September 23rd put on milk and barley water with sodium citrate (gr. j ad 3j of milk), as recommended by Poynton. For forty-eight hours there was no sickness to speak of, but then it returned, and every feed was vomited as soon as it was taken. Her weight at the end of one month was the same as at birth. Imagining the food to be still the cause of the trouble, we replaced the milk and barley water with Allenbury No. 1, and again for about forty-eight hours the vomiting was much relieved. On October 4th a further change in the diet was made, "bread jelly," as recommended by Cheadle, replacing the Allenbury No. 1. On October 5th no nourishment was retained at all, each feed being vomited practically immediately. On October 6th we attempted small feeds (3j) of peptonized milk and lime water, a certain number of which were retained. The bowels were constipated, and means had to be taken to get them to act. The nursing of the child was being carried out by the mother, a hospital nurse of great experience; this, of course, excluded any possibility of error in measuring out feeds or irregularity of time in giving

them, or any doubt as to the absolute cleanliness of all vessels used in connexion with the food. The vomiting was not accompanied by retching; the food was immediately, so to speak, pumped up and shot out, sometimes quite forcibly. The chronic vomiting, unassociated with any evidence of gastric disturbance and not relieved by careful nursing and changes of food, now suggested that pyloric stenosis might be the cause of the mischief. On October 6th a feed was given to the child when it was undressed, and we were able to see well-marked peristaltic movements in the epigastrium culminating in a vomit. This observation was confirmed on several subsequent occasions by my partner, Mr. R. Hingston, to whom I am deeply indebted for much help and encouragement during the trying conduct of this case. The child was now naturally losing weight and was very fretful night and day, constantly screaming out with colicky pain, which invariably followed if a feed were retained. The weight had fallen from 7 lb. to 6½ lb. My attention was now directed to an article by Dr. R. Hutchison¹ dealing with the subject of congenital pyloric stenosis, and this showed me that without doubt we had a case of this condition to deal with, the baby having all the classical signs and symptoms—namely:

1. Vomiting of a projectile nature coming on almost immediately a feed was taken down, with absence of any sign of gastric disturbance.

2. Loss of weight.

3. Constipation.

4. Visible peristaltic movements in the epigastrium, culminating in a vomit.

5. Relief of the symptoms for a period of a day or so by changing the food.

I sent Dr. Hutchison full details of the case, and he most kindly wrote advising me as to treatment; and I must here express my most grateful thanks to him for his generous advice and help, both then and on many subsequent occasions, whilst the case was under treatment, the successful result obtained being entirely due to the means which he suggested.

On October 23rd, the child being now 7 weeks old, and slowly but steadily losing ground, we began the treatment suggested by Dr. Hutchison, consisting of: (a) Daily washing out of the stomach; (b) small feeds (3jss at a time) of *peptonized* milk and water, half and half; (c) Purgin (half a tablet of "Infant Purgin") at night to relieve the constipation. She was also given a small amount of Kepler malt extract and cod-liver oil daily.

The effect of washing out the stomach was little short of marvellous; the fretfulness disappeared at once, and only on one occasion during the time gastric lavage was carried out once daily (and this lasted from October 23rd, 1908, till March 24th, 1909, a period of five months) did the little patient show any signs of abdominal discomfort, and then she was immediately washed out, with the result that the discomfort was at once removed. The operation of washing out the stomach was most easily performed. A glass funnel and a soft rubber No. 12 catheter were used; the end of the catheter was dipped in glycerine and placed on the infant's tongue, when she began to swallow the tube, and so rendered the passing of it a very simple matter. The operation never made the child cry nor appear inconvenienced in any way.

The child's weight remained about 6½ lb. until the middle of January, 1909, when she was 4½ months old. She was a mere

skeleton, and the points of bone at the back of the iliac crests and the spines of the sacral vertebrae looked as if they might perforate the skin at any moment, and were only prevented from doing so by carefully changing her position from time to time, not allowing her to lie on the back or one side for too long; she moved her limbs very little, there being extremely little muscle to perform any movements with. In spite of her emaciation, which was extreme, she never looked cachectic, and always seemed happy and comfortable, thanks to the gastric lavage.

From November 26th, 1908, to January 20th, 1909, the abdo-

men was massaged twice daily with cod-liver oil, but this was not continued longer, as there was no evidence of benefit from its use. At the beginning of February, 1909, on the advice of Dr. Hutchison, we began giving raw meat juice to counteract any ill effects of the prolonged diet of peptonized milk, and "Glaxo" was given for alternate feeds; also one feed of weak Benger's food was each day substituted for one of the peptonized milk feeds. By the end of February, the child being now

Dotted line shows average weight at different ages.