PROGRESSIVE CEREBRAL ISCHAEMIA

BY

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Elderly people who are beginning to "fail" often show changes in mentality or behaviour as the first sign of their deterioration. During the last two years a number of such patients have been studied at the Royal Hospital, Chelsea. Among them were two groups of cases which seemed to be associated with the presence of cerebral ischaemia. One of these, in which the condition remained stationary, appeared to correspond to the "relative hypotension" of Stieglitz (1935). This was one of the commoner forms of senile dementia. The other, described below, was progressive through three distinct stages to a fatal termination.

Clinical Picture

Of the 27 patients in this series all but two were Chelsea pensioners. Their ages ranged from 70 to 87. Fifteen had but recently recovered from an infection of the respiratory tract; 14 were suffering from congestive heart failure, which followed bronchitis or bronchopneumonia in 7 of them; 9 had had previous cerebral thrombosis; 1 had infection, cerebral thrombosis, and heart failure; while 1 had no known predisposing factor apart from hypertension.

TABLE I.—Predisposing Factors

Recent infection	15
Congestive heart failure	14
Previous cerebral thrombosis	9
Infection and heart failure	7
Heart failure and cerebral thrombosis	4
Infection and cerebral thrombosis	4

The first change to be noticed was a vague or muddled state of mind in a patient previously lucid. Thought processes became irregular and sometimes delusions appeared. These might be of persecution by members of the staff or others, but often concerned the price of articles. For instance, one man asked for £150 to buy a pipe and tobacco; another patient watered an imaginary garden with his urinal; while a third sprinkled his pudding with tobacco. Failure to recognize friends or relatives was also common. Members of the hospital staff might be addressed as brothers or sisters in error. At this stage the blood pressure was high in most of the cases recorded, but not so high as the previous normal. A fall from 230 to 170 mm. or from 205 to 195 mm. was the type of change noted.

After this came a stage of restlessness, often going on to violence, and usually worse at night. The most characteristic feature was a desire to get in and out of bed without reason. Automatic resistance to nursing or treatment was common.

In some cases the clinical picture resembled the condition known as "cerebral irritation," seen after head injuries. Two patients in this stage had to be sent to a mental hospital, but died in cardiac failure soon afterwards. The blood pressure in this phase was definitely lower than before, varying from 150/100 to 110/70 in patients previously hypertensive.

As the restlessness passed off the pulse became perceptibly weaker and the patient drifted into a terminal coma at systolic pressures between 120 and 75 mm. Diastolic pressures were always hard to determine at this stage, but one man showed 95/80 mm. as his last reading. His original figures were 180/90 mm. Another patient lingered for three days with no pulse palpable below the elbow, although his previous level

TABLE II.—Symptoms and Blood Pressure (in mm.) of Typical Cases

Case	Usual B.P.	Muddled or Delusional	Restless or Violent	Comatose	Duration
5	?	120/90	110/80	95/?	28 days
6	?	190/90	110/70	?	5 days
9	?	140/90	110/80	75/?	1 month
11	205/140	195/100	130/80	105/60	13 days
15	230/110	170/110	?	brachial 0	24 months
18	?	180/120	150/100	120/80	5 weeks
21	180/90	160/90	130/80	95/80	2 months
24	180/90	150/80	130/70	110/60	24 days
25	225/130	150/100	130/100	110/?	1 month
26	?	180/110	150/90	100/60	9 weeks
27	?	170/90	140/80	110/?	5 weeks

had been 230/110. At this stage it was usual to find peripheral cyanosis and evidence of circulatory stagnation.

Discussion

The first cases in this series came to notice because their condition relapsed after apparently successful treatment. For example, patients with bronchopneumonia cured by sulphapyridine returned in congestive heart failure. This was treated by administration of digitalis and injections of mersalyl, which removed the oedema; but the patients showed the succession of mental symptoms described, and died in spite of all efforts. It was then observed that many of them had been previously hypertensive or showed cardiac enlargement suggesting past high blood pressure; so readings were taken at intervals. Unfortunately enemy action destroyed many of the earlier records.

The relation between a falling blood pressure and the appearance of cerebral symptoms in arteriosclerotic subjects suggests that progressive cerebral ischaemia is the basic pathology. This was mentioned by me in a communication (Howell, 1941) on the subject of heart failure in the aged. Subsequent cases, with more detailed study of the arterial tension, have gone to confirm this. Successive ischaemia of cerebral cortex, hypothalamic area, and medulla would be likely to give the symptoms described. Owing to the fatal outcome of this syndrome its recognition is of some prognostic importance to the practitioner.

Conclusions

A series of cerebral symptoms occurring in 27 senile patients is described. A progressive fall in blood pressure accompanied the symptoms in every case which had such readings taken. It is suggested that the symptoms were caused by progressive cerebral ischaemia. The invariably fatal prognosis of this syndrome is stressed.

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CONGENITAL ABSENCE OF THE VAGINA
TREATED SUCCESSFULLY BY THE
BALDWIN TECHNIQUE

BY

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Operations for the treatment of congenital absence of the vagina have been performed since the end of the last century. The basis of these operations was dissection of the recto-vesical space, and lining by epithelium or endothelium of the cavity thus produced. Heppner (1892) used skin from the thigh; Pozzi (1908), flaps from the labia; while Thiersch grafts, pinch grafts, or peritoneum have been employed by others. Wharton (1940) merely dissects the recto-vesical space and inserts a rubber-covered mould, which is worn for about four months. He claims that by the end of that time epithelium has grown up from the orificium to line the cavity. He states that contracture has not occurred in any of 11 cases done by his method. This is difficult to understand, as contracture is the bane of all operations where bowel is not employed.

Snegireff (1904) used the rectum to replace the missing organ, and a modification of his operation was designed by Schubert (1911, 1912). In the modern construction of the vagina from bowel a loop of pelvic colon or ileum is employed. Baldwin (1907) was the first to describe the technique of using small intestine. His operation was performed in the case described below.

Clinical History

The patient was aged 25, had been married two years, and complained of primary amenorrhoea. Her secondary sex characteristics were well developed and her libido was normal. She was mentally depressed owing to her deformity. Examina-

tion showed a normal pudendum, except that the vagina could not be found. On rectal examination the ovaries could be felt, but the uterus was not palpated. Intravenous pyelography showed that the kidneys were normal in position and function. The patient was extremely anxious for operation and willing to accept its limitations.

Report of Operation

The operation was performed in July, 1942. The patient was placed in the lithotomy position and the recto-vesical space dissected up to the peritoneum. A long tissue forceps was put in the cavity and the Trendelenburg position adopted for the second stage of the operation. The abdomen was next opened by a right paramedian incision; the ovaries, tubes, and round and broad ligaments were present, and looked normal. The appearance was as if a total hysterectomy had been performed. The lowest loop of the ileum was "measured" over the pubis. This loop was excluded from the intestinal tract by dividing the bowel between clamps, about six inches from the ileo-caecal valve, and again about ten inches higher up. The ends of the separated loop were closed and its mesentery was mobilized for about two inches, care being taken that its blood supply was not jeopardized. Bowel continuity was restored by end-to-end anastomosis. Aided by an assistant pushing on the forceps, the peritoneum in the pouch of Douglas was divided. The forceps was made to seize a ligature passed through the centre of the mesentery of the loop, and the assistant pulled forceps and loop down. This was the most difficult part of the operation, and could only be done when the Trendelenburg position had been abandoned. The peritoneum was sutured over the ends of the loop and the abdomen sewn up in layers. The lithotomy position having been again adopted, the convexity of the loop was sutured to the orificium and opened. A corrugated drain was left in the recto-vesical space for 24 hours.

The patient stood the operation well; the spur was crushed after three weeks and again a week later. She left hospital six weeks from the time of operation. The vagina was now four and a half inches long and admitted two fingers. Her stay in hospital was prolonged because of superficial infection of the abdominal wound. She was seen again in six months: her cheerful attitude towards life was a striking change. The vagina had not contracted, and she had no noticeable mucous discharge.

Conclusion

One case of congenital absence of the vagina treated successfully by the Baldwin technique is described. When uterus and ovaries are normal there can be no question as to the propriety of operation. In the type of case described above it is felt that operation is justifiable if the patient is married or about to marry, if her attitude towards sex is normal, and if she is willing to undergo an operation of some severity.

From absence of personal experience, no comparison is made with other methods of treatment. It may be said, however, that the vagina constructed by this method shows no disposition to contract, is lined by mucous membrane, and on bimanual examination is almost indistinguishable from the normal vagina.

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W. I. Daggett (*J. Laryngol. Otol.*, 1942, **57**, 427) describes a condition of desquamative otitis externa which is rarely if ever seen in Great Britain, but is well known in hot humid climates such as Malta, where he has seen 164 cases. The incidence is seasonal, the disease being very common in the summer and virtually disappearing in the winter. The chief characteristic is desquamation lining the deep bony meatus. The commonest bacteriological findings are diphtheroids plus *B. proteus*, and diphtheroids plus *B. pyocyaneus*. Treatment consists in careful cleaning, astringent wicks, and powder insufflation.

Medical Memoranda

Two Cases of Congenital Absence of One Kidney in the Same Family

Although congenital absence of a kidney is not rare enough to warrant the reporting of a case—A. R. Stevens (1937) estimated its occurrence as about 1 in 1,000—two cases in the same family are of interest in suggesting that the condition may be hereditary. More than one case in a family does not appear to have been recorded before: Ballowitz (1895) gives a summary of 210 cases, and reports 3 new ones, but no mention is made of the condition being familial or hereditary.

CASE REPORT

The patient, a boy aged 8, was sent for investigation because albumin had been found in the urine at a routine pre-operative examination. He was in good health, and had no symptoms referable to renal disease. He had had a tonsillectomy at the age of 6. The mother's uncle was known to have had "kidney trouble."

On examination the boy appeared well. Neither kidney was palpable. The heart was normal, and the blood pressure 110/70. The urine showed no albumin at any time, even after the boy had been up and about. Microscopy of the urine revealed a very occasional pus cell and red blood cell, but no casts. The blood urea was 42 mg. per 100 c.cm. The urea clearance was 103% of the average normal. An intravenous pyelogram showed a large but normal left kidney in a normal position, but the right kidney outline was not visible and there was no visible secretion from it. Cystoscopy revealed a normal left ureteric orifice, but no right ureteric orifice was visible. The interureteric bar was seen up to the midline, but no sign of it was present on the right side. No other congenital deformity was found.

Further inquiry about the condition of the mother's uncle was then made, and it was found that two intravenous pyelograms had failed to reveal any kidney on the right side, the left kidney being large, with normal outline of the calices, pelvis, and ureter. The absence of the right kidney was confirmed by palpation during an appendicectomy.

The occurrence of the identical abnormality in two members of the same family suggests that the condition may be hereditary, and is a stimulus to search for more such cases.

I have to thank Dr. W. J. Pearson for permission to publish this case, and Mr. F. J. F. Barrington for doing the cystoscopy.

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Sealing Intratracheal Catheters, and a Listening-tube

I have tried various ways of sealing intratracheal catheters in position to prevent loss of cyclopropane through leaks and to gain control of intrathoracic pressure, and for some years have relied, except for operations in the mouth and some others entirely on the following:

1. The soft parts about the glottis—the base of the tongue, epiglottis, aryepiglottic folds, etc.—are themselves pressed into service to occlude the space where leaks occur. This is done by approximating them to the posterior wall of the pharynx by tying the chin back with two turns of bandage, and is facilitated by the phenomenal relaxation of the jaw under cyclopropane. The method has the advantage of being very simple and efficacious, and it is harmless. The use of packing is avoided, and the only care needed is to keep the tongue, which is protruded from the half-open mouth, moist. Moreover, an ordinary Magill catheter is used, whereas an inflatable cuff, when wrinkled, may impede blind intubation. In some patients the face becomes congested.

2. It is a great help to be able to hear the breathing well, and in cases which have been intubated but not connected to a breathing-bag I cut a piece of rubber tubing, a few inches long by 3/8 in. diameter, to use as a listening-tube in the following way: Near one end a slit 3/8 in. long is made, and diametrically opposite to this a piece is cut out of the wall with scissors, leaving a large hole; the other end is cemented with rubber solution on to a length of tubing of smaller diameter for conveniently holding to the anaesthetist's ear. The slit is slipped over the collar of a Magill metal connexion, and so the breath goes in and out past the hole. It can be most clearly heard, and has been much appreciated by students, who are thus enabled to heed every change in the breathing.

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