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

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	2½ 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	2½ 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

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-