Comment

Intestinal lymphoma may complicate coeliac disease, especially in longstanding cases not treated with gluten withdrawal.¹ If this were such a case it is unusual because the lymphomatous process affected only the lymph nodes and not the bowel wall. Moreover, the clinical picture suggested primary intestinal lymphoma presenting as a "coeliac syndrome."² Acquired ichthyosis at the time of deterioration of the patient raised the suspicion of lymphoma.³ Toxic epidermal necrolysis may have been precipitated by cytotoxic treatment, but occurs with lymphoma,⁴ and other malignancy.⁵ Alternatively, the immunofluorescence demonstration of cryoprecipitate at the dermo-epidermal junction suggests an immune mechanism could have been responsible.

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Dialysis dementia: recovery after transplantation

A syndrome of progressive encephalopathy in patients undergoing chronic haemodialysis was first described in 1972.¹ The clinical features are progressive and consist of dysarthria with nominal aphasia, dementia, myoclonic jerking, grand mal seizures, and psychosis. The electroencephalogram (EEG) is abnormal, the characteristic features consisting of high-voltage delta waves and spike activity with generalised slowing. Death usually occurs within three to eighteen months of onset and there are no reported recoveries. We report a case of recovery after transplantation.

Case report

A 36-year-old man with chronic glomerulonephritis began home maintenance haemodialysis using standard coils, and cationic-exchange softeners to treat the dialysis fluid. After 13 months he underwent a parathyroidectomy because of persistent hypercalcaemia, proximal muscle weakness, and leg pains. The removal of the parathyroid glands was incomplete. His serum calcium concentration remained raised and there was no symptomatic improvement. Three months later he had six transitory episodes of speech difficulty. On examination he had dysarthria with nominal aphasia, generalised hyperreflexia, proximal muscle weakness, and a blood pressure of 160/100 mm Hg. He was otherwise normal. Four weeks subsequently he developed generalised tonic clonic seizures and recurrent episodes of non-fluent dysphasia. These symptoms recurred with increasing frequency, and he began to have grand mal seizures. His speech became unintelligible, and on a few occasions he had episodes of mutism. He was confused and agitated.

Since starting haemodialysis he had been treated with propranolol, 80 mg, and aluminium hydroxide, 20 ml, both three times daily, and vitamin supplements. The seizures were treated with phenytoin, 100 mg thrice daily. Six months after the onset of the neurological syndrome, he underwent cadaveric renal transplant. The tonic clonic seizures and episodes of mutism ceased, and his speech disturbance gradually subsided. He restarted part-time work six months after transplantation, and within a year was working full-time. The results of clinical examination, 18 months after the transplant,

were normal except for generalised hyperreflexia. The range of values for urea, creatinine, sodium, potassium, albumin, and alkaline phosphatase showed no significant abnormality throughout haemodialysis. The serum calcium concentration was persistently raised, mean 2.8 mmol/l (11.2 mg/100 ml) before transplantation. The mean serum phosphate concentration after dialysis was 1.2 mmol/l (3.7 mg/100 ml). Serum vitamin B₁₂ and folate concentrations were 240 ng/l and 7.4 µg/l, respectively. Cerebrospinal fluid was clear and acellular with a protein of 0.35 g/l, glucose of 4 mmol/l (72 mg/100 ml), and a negative culture. The findings on bone radiology, including skull series, were normal. An EEG showed background theta activity at 6 Hz with frequent bursts of 2 and 4 Hz high-voltage delta waves. Frequent bilateral seizure discharges were also present.

After transplantation his blood urea and creatinine concentrations stabilised at 10 mmol/l (60 mg/100 ml) and 180 µmol/l (2.1 mg/100 ml), respectively, and the current serum calcium concentration is 2.4 mmol/l (9.6 mg/100 ml). An EEG shows considerable improvement, the background activity being alpha at 8 Hz with occasional bursts of theta at 6 Hz. Seizure discharges occur during photostimulation only.

Comment

The cause of dialysis dementia remains unknown. Recently high aluminium concentrations have been found in brains of patients dying of the syndrome.² The source of this is not clear, though it may be due to ingestion,² or an excess in the dialysate. Phosphate depletion has also been implicated and a halt in progression of the syndrome was noted in patients following aluminium withdrawal with the addition of phosphate to the dialysate.³ The improvement in patients receiving diazepam suggests a corticoreticular epileptic abnormality.⁴

Treatment by transplantation has been carried out but only one patient is reported as having shown slight improvement after 18 months.⁵ Our case shows that the syndrome is potentially reversible once dialysis has ceased and the uraemic state has been reversed by transplantation. This is the only reported case of recovery and, although epileptic features still persist in the EEG, these are restricted to photostimulation only. Transplantation, therefore, may be of definite benefit in the management of dialysis dementia.

We are grateful to Mr Hanson and his team at Jervis Street Hospital, Dublin, who performed the transplant on our patient.

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Surgical revascularisation of the cerebral cortex

This report shows the dramatic improvement of cortical function that can be achieved by anastomosing the superficial temporal artery to a cortical branch of the middle cerebral artery when cerebral perfusion has been reduced by multiple occlusions of major arteries supplying blood to the brain.

Case report

A security guard aged 57 had had failure of recent memory for twelve months. Then in November 1976 he complained of dizzy attacks and an unsteady gait. On 19 December 1976 he lost consciousness for twenty

minutes and afterwards made no spontaneous conversation, was uninterested in his surroundings, and refused to feed himself. He was doubly incontinent. On admission to hospital, he was found to be emaciated; he ignored questions or answered them slowly and inaccurately. Lack of co-operation made examination of the central nervous system difficult but no abnormal neurological signs were found. Carotid pulsations were present in the right side of the neck but not on the left.

Plain x-ray films showed calcification in the region of both carotid bifurcations. Psychological assessment showed that the patient was functioning at a severely subnormal level, his mental age being between 2 and 6 and his IQ between 20 and 49. Arch aortography showed occlusion of the left common and right internal carotid arteries; the right vertebral artery was patent, but the left one failed to opacify intracranially. The basilar artery and its branches filled from the right vertebral artery, and delayed filling of the anterior and middle cerebral arteries occurred via the posterior communicating arteries.

On 21 January 1977 the right superficial temporal artery was anastomosed to a cortical branch of the middle cerebral artery, as described.¹ Postoperative right carotid arteriography (figure) showed a patent anastomosis through which early filling of the middle cerebral branches occurred. Timed serial films showed that filling through the anastomosis was more rapid and produced better opacification than the reflux filling of the intracranial vessels via the right vertebral artery.

Postoperative right common carotid arteriogram showing excellent filling of the branches of the middle cerebral artery via the patent anastomosis (arrowed) between the superficial temporal artery and a branch of the middle cerebral artery. Outlining of the basilar, both posterior cerebral, and the left middle cerebral arteries has occurred through reflux filling of the right vertebral artery.

Within a week of operation the patient was taking an interest in his surroundings. After two weeks he was orientated and could recall that day's events. By the third week he was actively occupied in the occupational therapy department. He was continent, except occasionally at night. He went home four weeks after operation. Six weeks later he attended the outpatient department smartly dressed and was able to give a good account of himself and his activities. Psychological assessment showed that his IQ was between 85 and 90.

Comment

The calcification seen radiologically indicates that this patient's arterial disease was longstanding. Probably the occlusion of two major arteries supplying blood to his brain had occurred long before the onset of the illness which caused loss of consciousness and dementia. Closure of the third major artery reduced the cerebral perfusion level below the critical level causing ischaemia and failure of function of the frontal lobe.

Donaghy and Yasargil in 1967 showed that it was possible to make an extracranial-intracranial anastomosis and appreciably increase the

cerebral blood supply. Several series since have shown²⁻⁵ the value of the procedure in patients with transient ischaemic attacks, prolonged reversible ischaemic episodes, and generalised low perfusion states. Chater and Peerless² had six patients with dementia and multiple major artery occlusions, one with occlusion of both internal carotid and both vertebral arteries and a clinical picture similar to our patient. The dementia of all six patients improved after extracranial-intracranial anastomosis.

Before extracranial-intracranial anastomoses were performed it was usually assumed that patients with dementia and multiple major artery occlusions inevitably had cerebral infarction, but this is not so. Low perfusion levels may cause ischaemia and cessation of function of neurones. These cells, though inactive, are alive and capable of regaining function after revascularisation of the cerebral hemispheres as is clearly shown in our patient's case.

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Pasteurella multocida meningitis in an infant with recovery

Pasteurella multocida is reported to be the most common infecting organism in patients studied bacteriologically after dog bites.¹ The effects are usually mild, manifesting as acute cellulitis, regional adenopathy, and low-grade fever. The rare complications are septicaemia and meningitis. A review has shown that only 18 cases of *P. multocida* meningitis have been reported.²⁻⁵ Of these, five cases have been in infants, of whom two have survived.^{4,5} We report the occurrence of septicaemia and meningitis in a 7-week-old infant with recovery.

Case report

A 7-week-old baby boy was admitted for scrotal swelling, "whining," and not feeding well for about one day. He had had no vomiting or fits. He looked ill and irritable, the temperature was 37.5°C, pulse 180/minute, respiratory rate 20/minute, weight 5.5 kg. The anterior fontanelle was full and neck stiffness was present. The left side of the scrotum was warm, red, and tender with oedema of the skin. The testis and epididymis were enlarged and the cord was thickened. The results of the rest of the examination were normal. The cerebrospinal fluid was turbid and contained protein 1.2 mg/l; sugar 1.1 mmol/l (19.8 mg/100 ml); cells $3.0 \times 10^9/l$ (3000/mm³), polymorphs 95%, lymphocytes 3%. A smear of the deposit showed many pleomorphic Gram-negative rods. Blood urea and electrolyte concentrations were normal; the haemoglobin was 11.5 g/dl; WBCs $5.8 \times 10^9/l$ (5800/mm³), neutrophils 50%, lymphocytes 46%, monocytes 4%. From the spinal fluid and blood a Gram-negative coccobacillus was isolated, sensitive to penicillin, ampicillin, gentamicin, chloramphenicol. It was later identified as *P. multocida*; Frederiksen biotype 4.

Treatment was begun with gentamicin, 8 mg intravenously every eight hours, and ampicillin, 200 mg intravenously every four hours, for five days. He was also given from the second day thrice daily intrathecal injections of gentamicin, 1 mg, with hydrocortisone, 10 mg. On the fourth day the scrotal skin was less inflamed, but the testis was still enlarged and his fever persisted at 38°C. Aspiration of the scrotum produced 0.5 ml of viscid yellow pus which was sterile on culture. The exact location of the pus was difficult to determine because of the oedema of the skin, but it was most likely present in the tunica vaginalis. On the fifth day, because his fever persisted at 39.3°C and the fontanelle remained full, a search for subdural effusions was made by bilateral subdural tapping but none were found. Treatment was continued with the