ance of some typical residuum that has first drawn attention to the case, and only a careful inquiry has elicited the fact that a previous attack of epidemic encephalitis had taken place. In some cases there may be an uninterrupted clinical connection between the acute initial stage and the secondary manifestation; usually, however, there is an interval, wholly or partly free from sequelæ, and this interval may be from two months to three, four, or even five years when gradually or suddenly the after-effects become noticeable.

Example. C. S. (M.), aged 10 years.

Acute attack April, 1924, with sickness, light-headedness, diplopia, fever, four days' sleeplessness, then lethargy ptosis, squint, and mental confusion.

The sequelæ appeared three months after as spitefulness, destructiveness, pilfering, lying, masturbation, lacking in attention, sleep inversion, and involuntary choreiform movements of the shoulders.

Psychic Changes.

In children changes of morals are often the predominant features, and may be roughly summarised as the effect of loss of inhibition. These psychic changes usually set in some time after the acute stages and have a gradual development. They may be divided into moral, emotional and intellectual changes.

MORAL CHANGES.

Children, many of them reported to have been good and docile before the attack, now become restless, garrulous and meddlesome. They show marked irritability, querulousness, use of bad language, propensity to destructiveness, vagrancy, pilfering, precocious erotism, masturbation, obscene conduct, cruelty, and even attempts at murder.

EMOTIONAL CHANGES.

Their emotional equilibrium becomes easily disturbed; they have outbursts of anger, sorrow, weeping, and may become unduly affectionate and demonstrative.

INTELLECTUAL CHANGES.

At school they show lack of concentration, unreliable perception and retention of ideas, and a failing interest in their work. They are difficult to keep at any task, and require constant change of occupation. It is almost impossible to make them learn, or attempt to learn anything fresh.

In many cases all mental initiative has been lost, although it may be very doubtful whether actual defects of intellect are present. Some, indeed, although exhibiting maniacal outbursts have been able to answer all mental tests applicable to their age.

In other cases, however, the deterioration is such that they must be classed as mentally deficient.

Psycho-Motor Excitation.

In children especially encephalitis lethargica leaves in its train a state of psycho-motor excitation with restlessness, insomnia, tendency to tics, etc.

TICS.

Many of the cases show tics, either as the sole manifestation or combined with other disturbances.

Such tics as smacking, spitting, scratching, blowing, tapping, blinking and nail-biting, etc.

General Changes.

General changes such as excessive salivation, functional cardiac disturbances, and attacks of peripheral cyanosis are seen.

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Some patients get pathologically fat, whilst others have attacks of polydipsia or polyuria.

Example. J. H. (M.), aged II years.

Acute attack, April, 1924. Headache, diplopia, diurnal lethargy, and nocturnal restlessness.

Sequelæ immediately and gradually followed. Formerly said to be quiet-now spiteful, self-willed, and interfering. Has been fat since illness, but before he was very thin.

Generally obese. Genitals under-developed. Has developed fine tremors of both hands. Some slowness of movement and speech.

Weight, November 25th, 1925, 6 st. 10 lbs.; February, 1927, 7 st. 8 lb. Height, 54.5 ins. He is developing mild Parkinsonism features.

Neurological Types.

These show extreme polymorphism and may be conveniently divided into :-

Chronic encephalitic Parkinsonism.

(2) Extra-pyramidal hyperkinesia (muscular unrest).

(3) Intermediary types.

It must be clearly understood that these types are rarely found pure, usually they are in complicated combinations.

CHRONIC ENCEPHALITIC PARKINSONISM

The Parkinsonian syndrome often gradually and insidiously develops.

At first all that may be noticed is perhaps a slight stiffness and slowness of movement, either localised to the face, neck, arm or leg, or generalised, accompanied maybe by some slowness of thought and speech. Sometimes a localised tremor is the first sign.

The disease may remain localised to an arm or to one side, but usually it becomes generalised and in a well-marked general case the appearance of the patient, with immobile greasy face, the fixed stare, the dribbling from the mouth, and the rigid doll-like gait, with arms flexed, and held in front of the abdomen is so characteristic that the diagnosis can be made at first sight.

Usually the features are completely immobile and remain so even when the patient smiles or speaks, which he does without moving his lips. The skin, without a wrinkle or fold, appears abnormally smooth and greasy. As soon as the mouth opens a thick viscid saliva escapes, and this in the later stages may become a constant dribbling.

The patients stare out at the world with almost motionless eyes from under eyelids which blink but rarely or not at all. On examination one finds a retarded contraction of the frontalis muscle when the upper lid is raised, and when an object is suddenly brought near the eyes a prolonged flutter of the lids is produced.

The attitude and gait are very characteristic; the head, neck, the arms and trunk being held almost completely immobile, with the head and trunk more or less bent forward and the two arms somewhat flexed at the elbow and held in the full prone position in front of the abdomen.

The patient moves forward by taking small steps with slightly flexed knees and trailing the point of the foot on the ground. The arms no longer swing to and fro when the patient walks, and this is often a valuable diagnostic sign. Many of them find it easier to run than to walk.

One of the most noted signs of this syndrome is the tendency to retropulsion, in which, when the patient stands or has his head slightly hyper-extended, he has the sensation of being pushed backwards, he oscillates, then makes several short backward steps as if to regain his lost balance, and continues to do so until he comes up against some object or falls. One of our patients had propulsion, the very reverse, and on one occasion she commenced to run



