Long-Term Results in 62 Cases of Post-Traumatic Complete Apallic Syndrome*

By

C. A. Pagni, M. Giovanelli, G. Tomei, M. Zavanone, G. Signoroni, and E. Cappricci

With 3 Figures

Summary

After the transition state of decerebrate coma, at least four different kinds of the so-called apallic status can be identified:

1. Complete apallic syndrome: coma vigil, alertness without any awareness, mass movements only, impairment of sleep rhythm, absence of any emotional responses, postural abnormalities, some primitive motor responses, tetraplegia, and alteration of muscle tone.

2. Incomplete apallic syndrome: some of the features of the complete apallic syndrome are lacking, and the patient shows emotional reactions with appropriate grimacing and some appropriate motor responses.

3. False apallic syndrome: most signs of complete apallic syndrome are present, but the patient is in touch with the environment. This condition is somewhat similar to the so-called locked-in syndrome.

4. Functional apallic syndrome: full clinical picture of the complete apallic syndrome but full recovery within a few days.

Long-term results in 62 patients, aged between 4 and 62, affected by a post-traumatic complete apallic syndrome are reported. Thirty two patients were operated upon and 30 were not operated upon. Out of these cases, 38 died after weeks or months; 3 patients entered a chronic apallic status; 2 patients are improving; 10 recovered with severe neurological or psychic sequels or both; 4 recovered with minimal sequels, and 5 without sequels; no patients in these two last groups were aged more than 20.

Kretschmer’s term appallic syndrome (Kretschmer 1940, Gerstenbrand 1967) indicates post-traumatic and non-traumatic states in which the patient survives in a peculiar condition called coma

vigil characterized by a crude form of alertness, with no awareness, along with severe impairment of all higher brain functions and severe neurological damage.

According to Gerstenbrand (1967), the post-traumatic apallic syndrome is a chronic decerebrate state due both to pathological lesions and functional block of cortico-subcortical structures. Usually the patients die after a course of weeks or months. Recently several authors, mainly on the basis of isolated cases, commented on possible recovery from the apallic syndrome. However, only Gerstenbrand (1967) and Vigouroux et al. (1972) described the course of the clinical picture of apallic syndrome and reported, on the basis of a large series of cases, long term results.

In this paper results of one to seven years follow up of a group of 62 cases of complete apallic syndrome are reported.

Case Material

In ten years 1,203 patients in severe post-traumatic coma were admitted to the Neurosurgical Clinic of the University of Milan. Four hundred and seventy one were in &cerebrate coma; 732 were in not decerebrate coma.

Sixty two patients (5.1%) aged between 4 and 62, developed a complete apallic syndrome. 30 were under, and 32 were over 20 years. The syndrome developed in 54 out of the 471 decerebrate (11.4%) and in 8 out of the 732 non-decerebrate (1.9%) comas.

Thirty patients were not operated upon since they had no intracranial complications. Two had several limb fractures, and became comatose after a lucid interval because of fat embolism. Twenty eight had immediate coma, but in about 2/3 of these there was further deepening of coma.

Among these 30 cases, 4 were not decerebrate; 26 showed a mesencephalic syndrome with decerebrate posture (4 with and 22 without impairment of brain stem reflexes: ciliospinal, oculocephalic, oculovestibular and pupillary reflexes).

Thirty two were operated upon for an intracranial space occupying lesion: 12 had brain contusion, laceration, pulping with or without intracerebral haematoma; 7 had an acute subdural haematoma; 4 had an extradural haematoma; 4 patients had two of the previous lesions together; 5 had acute hypertensive hygromas with or without diffuse cerebral oedema (they underwent decompressive operations). Six out of 32 patients had a lucid interval, and 26 had immediate coma, usually worsening.

Four were not decerebrate, and 28 showed a mesencephalic syn-