

Post-Hemiplegic Hemi-Chorea Associated with Insanity. By
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(Illustrated.)

The clinical history of the following case, whether regarded from its subjective or objective side, together with the pathological aspects presented, embraces features of interest which I believe are worthy of perusal :—

A. M., æt. 61. Patient is married and the mother of twelve children; has been an active, intelligent, and fairly-educated woman, of temperate habits. She has been subjected to *much ill-usage by her husband and greatly neglected in her late illness*. Her family history appears free from any predisposing neurotic element, but her sister is said to have had a "stroke." Patient has suffered from rheumatic fever, but her present illness dates two years back, at which period she had a paralytic seizure affecting *the right side of face, right arm, and depriving her of the faculty of speech*, but in no way implicating the right leg; she did not lose consciousness. Bed-ridden for the past eighteen months, with chronic ulcers on the legs, neglected and half-starved, she had become wretchedly enfeebled and emaciated. Six months ago she began to *lose control over the movements of the right leg*, and about the same time the right arm, which had *regained much of its former power*, became the seat of the restless choreic movements present upon admission. Her speech, which she had never fully regained since the "stroke," became more difficult and much impeded at this time, and coincidentally with the onset of choreic spasms mental derangement supervened.

Upon admission patient endeavoured to give a detailed account of her past history; could recall correctly the events of the last few days; knew where she was and why she had been brought to an asylum; said she had had much trouble of late. She talked in a rambling strain about her husband; said he was dead, but had come to life again; declared a few moments afterwards that he was killed, her son shot and a daughter drowned lately—all delusional statements. She exhibited beyond simple depression a notably peevish, querulous humour, a distrust of those around her, and an obstinacy associated with *childish inattentiveness* and apparent *utter inability for the slightest mental exertion at times*.

Her speech was notably choreic, broken, spasmodic, the last word or syllable emphasized in a breathless manner; articulation at times much blurred; naming and propositioning good, but both appeared to cause unnatural effort. The auditory and visual elements of written and spoken language were fully appreciated. The movements of the lips were very inco-ordinate; there were clonic spasms of the facial muscles of the right side amounting to contortion and grimace; the tongue was frequently thrust forward during speech, the angle of the mouth was slightly drawn to the left side; tried to whistle, but failed, thrusting the tongue out. There was no dysphagia.

FRONT.

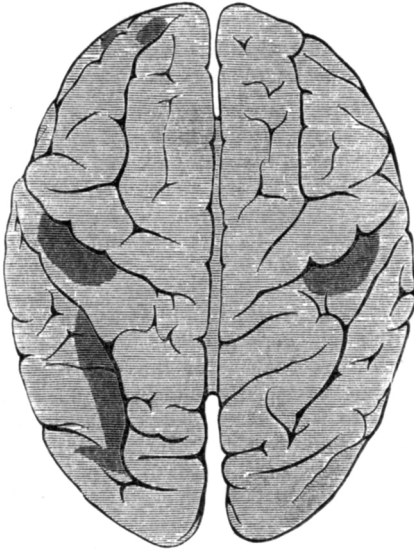


FIG. 1.—UPPER SURFACE OF BRAIN.

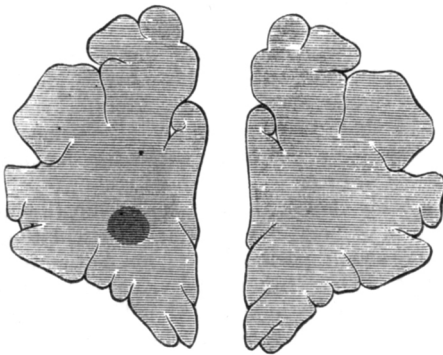


FIG. 2.—PREFRONTAL SECTION.

During the whole period of examination there were restless movements of the limbs, involving the right arm chiefly, and to a much less extent the right leg. The right arm, as a rule, lies perfectly flaccid and helpless, but during conversation, upon making any voluntary efforts, and especially during excitement and emotional disturbance, the limb was thrown about in disorderly, choreic movements; tossed into positions of flexion or extension with alternate pronation and supination of the fore-arm. The muscles of the hand, extrinsic and intrinsic, were not affected; the left arm was unaffected by paralysis or spasm. The dynamometer registered for the right hand a pressure of 8 kilos.; the left hand 10 kilos. Upon a second trial—for the right 7 kilos.; and for the left 11 kilos.

Galvanic reactions.—On the right side the biceps alone gave evidence of the reaction of degeneration, the Anodal closure productive of a minimum-contraction being caused by 18 cells; the Kathodal closing-current giving the same with 15 cells. The reaction of three muscles of the arm gave the following results:—

	KSc.	ASc.	KOc.	AOc.
Pectoralis Major	14	26	Nil at 50	Nil at 50
Deltoid	16	28	do.	do.
Biceps	15	18	do.	do.

Faradaic currents gave similar indications.

The limbs were extremely emaciated; the right and left arms at thickest part of biceps measured $5\frac{1}{8}$ inches; the right and left thighs $8\frac{3}{8}$ and $8\frac{3}{8}$ inches respectively; the right and left calf $5\frac{7}{8}$ to $6\frac{3}{8}$ inches respectively.

The triceps-reflex was absent from left arm, but unusually brisk in the right; the patellar tendon-reflex was *almost abolished in both legs*; there was no ankle clonus; the superficial reflexes, however, especially the plantar, were extremely brisk. The quadriceps responded sluggishly to percussion. As regards muscular power, she could only support herself upon the left leg—locomotion was impossible, and upon attempting it with great timidity, the right foot was jerked forwards, sideways, or backwards—movements which she endeavoured to control by standing on the left leg with the right leg twined around its fellow. Lying in bed, she could draw up both legs briskly, there appeared to be no great loss of power in the right member, but merely an extreme inco-ordination which prevented her attempting to use it in progression.

Muscular sense was intact; she was fully conscious of the position of her limbs, appreciated the difference in weights, and by other tests proved its retention. There was no marked cutaneous anæsthesia; tactile appreciation was very slightly disturbed upon the right side, as seen by the following results of the æsthesiometer test.—

Tip of Finger	Right side	.1 inch.	Left side	.1 inch.
Ball of Thumb	"	.4 "	"	.3 "
Back of Forearm.....	"	.8 "	"	.7 "
Plantar aspect of Great Toe	"	.3 "	"	.2 "
" " Foot.....	"	.5 "	"	.2 "

Sensibility to pain and temperature were, if anything, slightly increased on the right side. As regards the special senses, smell was acute and discriminating, so also was taste; colour appreciation was good, but visual acuity reduced Sn. $\frac{e}{1\frac{1}{2}}$ in both eyes alike. The left pupil reacted sluggishly, and the right pupil was perfectly rigid to light; the consensual and accommodation movements were perfect and active in both. The sense of hearing was unaffected. As regards the respiratory and circulatory systems, nothing abnormal was detected beyond the slightest possible roughening of the first sound of the heart at the apex—the heart's rhythm was undisturbed, its impulse of fair strength, and no apparent alteration in its dimensions perceptible. The urine was pale, limpid, of sp. gr. 1009; contained no albumen or sugar. Patient died after a residence of eight months.

Autopsy thirty-nine hours after death.—Body excessively emaciated; rigor mortis everywhere absent; slight hypostatic lividity over back; greenish discoloration of abdomen.

The skull-cap was symmetrical, bones thin and light; no adhesions of dura-mater; the longitudinal sinus contained a firm fibrous clot extending through both lateral sinuses down into the jugular vein of each side; this clot was *strongly adherent to the lining membrane of the sinus, and was evidently of long-standing formation*. The brain was of small size and generally reduced in consistence; the convolutions, which were of fair complexity, showed, however, a universal and marked attenuation and a peculiar rugose aspect of their surface, such corrugation being much more marked in the anterior half of the brain, both frontal lobes being very considerably implicated. The membranes were thin and translucent; the minute superficial venules at the vertex evidenced a long-continued stasis of cerebral circulation here which had resulted in the formation of *firm decolorised blood-clots* marking out these vessels as whitish streaks to their minutest visible ramifications. A superficial softened patch involved the cortex of the posterior part of the left supra-marginal, anterior limb of angular and second annectant gyri of this hemisphere; similar foci of softening, characterised by their peculiar milky opacity, involved *both ascending parietals along their middle third*; a few very insignificant softened patches appeared on the fourth right annectant and anterior end of the frontal gyri. The cortex generally was wasted and thin. Upon cutting carefully through the ganglionic region at the base, both outer and inner capsules were found perfectly free from lesion; and, beyond a very minute hæmorrhage of quite recent date, involving the posterior part of the left lenticular nucleus, the ganglia of both hemispheres showed no appreciable change. In the right hemisphere, however, a blood-clot, half an inch in diameter, firm, fibrous, not in the least decolorised, with a calcareous vessel occupying its centre, involved the prefrontal sections of medulla just in front of the spot where the head of the caudate dips down to the base. In other respects the brain showed no material change.

The whole brain weighed 1,173 grammes; the right hemisphere 500 grammes; the left hemisphere 510 grammes.

The heart was found free from any valvular lesion; the kidneys were wasted, but not contracted and cirrhotic.

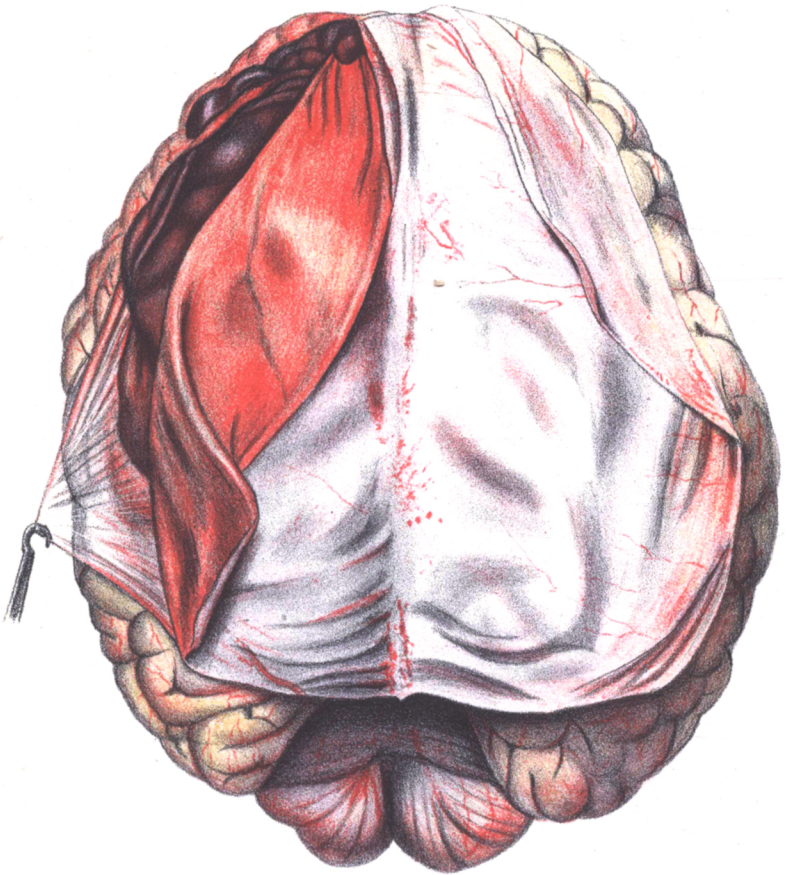
Remarks.—We have here an illustrative case of the association of chorea with insanity, such as not unfrequently occurs in asylum practice, and an analysis of the symptoms presented by the patient as leading up to a recognition of the nature and topographical distribution of the lesion or lesions to be predicated therefrom cannot fail to prove instructive. That the woman suffered from chorea was clear, but which of the multiform species of this widely embracing generic term her malady is to be classed amongst was not at first sight very evident. We find in her case the usual diathetic association of chorea—she had suffered from an attack of rheumatic fever. Sudden mental shock or fright are accepted as frequent exciting causes of choreic states, and this patient's domestic relationships—penury, starvation, ill-usage—introduced an element of intense mental disquiet and anxiety which would amount to mental shock “drawn out thin,” to use Dr. Hughlings-Jackson's expression. Passing, however, from these less cogent points to the study of the symptoms, we observe first that the convulsive phenomena were limited to one side—the right; and we instinctively demand a hemispheric distribution of lesions as accounting for these unilateral choreic spasms.

We note that the onset and progress of the malady dates from an attack of partial right hemiplegia with aphasia in which face and arm participated to the entire exclusion of the leg; a slow recovery ensues, and upon the restitution of a fair amount of power in the right arm, this member, together with the right leg, the facial and articulatory muscles become the seat of choreic spasms. Such a history reads like a case of ordinary post-hemiplegic chorea in which a coarse lesion is usually located in the posterior division of the internal capsule, impinging upon the thalamus; but observe, *there was no association of tonic rigidity with the choreic spasm.* We may, therefore, safely exclude our case from the category of choreiform movements consecutive to lesions of the converging medullated fan near the capsule.

Nor, on the other hand, is it to be included amongst those rare cases described by Gowers as “hemi-ataxia;” our patient exhibited no defect of muscular sense, was fully con-

scious of the position of her limbs, and could guide her movements with fair certainty even with her eyes blindfolded when lying on her back.

A curious feature in the case is the extreme sluggishness of the deep crural reflexes—the knee-jerk being almost abolished in both legs; whilst, on the other hand, the triceps reflex, not present on the left side, was very unusually brisk in the right arm; the biceps muscle also on this side gave the reaction of degeneration. Whatever view be taken of these signs of spinal implication, it must be remembered that the right leg was not enfeebled beyond what might be explained by the muscular atrophy due to prolonged disuse. Dr. Dickinson's views of the pathology of chorea, and the suggestive cases of chorea in dogs where the choreic movements persisted after high section of the cord, such as are quoted by Gowers, Carville, Bert, and others, demand that we pay due attention to the "spinal symptoms" associated with chorea. We cannot, however, despite these symptoms and the reflex iridoplegia in our case, long hesitate in deciding upon a *cerebral* rather than a *spinal origin* for the choreic spasms; paralysis of the face and arm of the right side with aphasia, slightly diminished cutaneous sensibility upon the side of paralysis, hemi-chorea associated with mental aberration, all indicate a cerebral origin for the convulsive state. As to the nature of the lesion? The outset of the "stroke" was unattended by lapse of consciousness, and this taken into account with the age of the patient, the absence of albumen in the urine, the presence of the rheumatic diathesis, would indicate softening as the result of embolic plugging or of thrombosis. The post-mortem examination revealed quite symmetrically-disposed patches of softening in the motor area of both hemispheres—over the middle third of each ascending parietal gyrus, which are traced to a venous thrombosis resulting from partial plugging of the lateral sinus and extension of an old organised clot backwards into the minute venules at the vertex; the left supra-marginal and part of the angular gyrus are likewise implicated. Apart from the significant distribution of these tracts of softening, I would wish more especially to call attention to the conditions here so supremely favourable to the capillary pluggings which such a venous stasis would predispose to—in other words, to the conditions demanded for the establishment of chorea by the views of Hughlings-Jackson and Broadbent. It is much to be regretted that from some



oversight the brain and spinal cord were not submitted to microscopic examination; but the presence of a minute hæmorrhage into the left lenticular ganglion and a much larger extravasation into the right prefrontal region, I take to be the expression of the general venous obstruction in the brain, which would probably have been found associated, upon microscopical examination, with capillary pluggings in the ganglionic regions at the base.

As regards the mental features presented by the patient, the peevish fretfulness was notable, and suggested the impairment due to cerebral atrophy; but the more interesting feature was the *extreme apathy, amounting to torpor*, the want of volitional initiative, apart from any profound dementia, which passed eventually into stages of prolonged somnolence, broken by occasional manifestations of irritability and sobbing ejaculations when the choreic movements predominated. In an article read before the British Medical Association at Liverpool, I have quoted cases of extreme atrophy of the frontal lobes associated with this excessive torpor and somnolence, and I would incline to relegate the case under consideration to the same category in support of the view that these lobes are supremely the seat of volitional activity, the highest initiating and determining faculties of the mind.

Case of General Paralysis, with Pachymeningitis. By GEO. H. SAVAGE, M.D. (*With Illustration.*)

(*Reported by Dr. W. R. Wood.*)

S. B. G., aged 61 years. This patient, an artist, was admitted into Bethlem Hospital November 22nd, 1883. The symptoms first noticed occurred six months before his admission. He became very irritable, and mistook the days of the week. He is said to have had hallucinations of sight, and on admission was quite incapable of connecting his ideas consecutively. He was unable to answer any questions coherently, not even knowing his own name. He was in a very restless condition, fidgeting with his hands and continually rubbing the back of his head. There was very marked tremulousness of the tongue and facial muscles, and great hesitation in his speech. His gait was very staggering.

Jan. 16th, 1884.—He had a series of epileptiform attacks, and was frequently grinding his teeth.

Jan. 28th.—Had another series of fits, which left him very feeble, and obliged him keep to his bed. He passed everything under him, and being very emaciated, bed-sores developed on his legs