

RECENT DEVELOPMENTS IN THE SYNDROME OF HEMISPHERE DECONNECTION

Some years ago we were prompted for several reasons to try again the section of cerebral commissures in the treatment of medically intractable seizure disorders. We cannot review here the extensive literature, both clinical and experimental; but we recall that of those patients of Van Wagenen (1941) ~~and Akelatis (1944)~~ having nearly complete section of the corpus callosum not including the anterior commissure, approximately one-half had a distinct improvement. And we note that subsequent experimental work has demonstrated the importance of the anterior commissure for seizure propagation, especially with temporal lobe foci (Frost, Baldwin and Wood, 1958; Poblete, Ruben and Walker, 1959). *Meanwhile a*

In 1960, one of us (J.E.B.) became physician to a man whose severe convulsions had not been helped by a variety of medicines. At best, while taking five different anticonvulsants simultaneously, he continued to have generalized convulsions at least once per week and status epilepticus every two to three months (Figure 1). There were ~~in addition~~ numerous less severe spells including various forms of automatic behavior. There was EEG evidence for involvement of both temporal lobes as well as the left temporo-parietal language zone. After six weeks of study at the National Institutes of Health at Bethesda, he was discharged with an apparently hopeless prognosis. In the spring of 1961, extensive discussions led to the proposal that he have an experimental operation to which he ~~had~~, and his ~~parents~~ *family* readily assented.

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We were particularly concerned that the division include all of the corpus callosum as well as the anterior commissure, because of our view that even a small remnant of fibers might vitiate the effect of the operation. Following surgery on February 6, 1962, the patient had a difficult post-operative course but within the year was able to enter into a social life impossible before the operation. It is difficult to describe the sense of satisfaction and delight with which we listened to his excited description of his first attendance at a baseball game in over seven years (Dodgers won). In the first two months after surgery there were two episodes involving unresponsiveness and numerous brief episodes of stiffening of the left arm. (See Figure 2) But since that operation six years ago he has not had a single generalized convulsion.

A year and a half after the operation on W.J., N.G. entered the White Memorial Hospital in status epilepticus. Medical treatment had been unavailing for the preceding eight years. A left temporal EEG focus had been demonstrated some years before, but by 1963 the EEG abnormalities were generalized and diffuse. There was in addition a right central calcification associated with an occasional aura of left-sided numbness. This patient was operated on September 5, 1963. Following her discharge from the hospital nearly five years ago, she has not had a generalized convulsion nor any other type of spell involving loss of consciousness. Her EEG has become essentially normal. She runs the family household, goes camping with her husband and leads a life which is not only normal but unusually active.

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