Case Report

Selective emotional detachment from family after right temporal lobectomy

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Abstract

Behavioral changes, such as mood disorders, anxiety, psychosis, and nonepileptic seizures often occur after temporal lobectomy. We report a man who selectively lost emotional attachments to family members after right temporal lobectomy. However, emotional responsiveness to strangers was normal or increased.

Keywords: Temporal lobe epilepsy; Behavior changes; Epilepsy surgery; Capgras syndrome; Emotion

1. Introduction

Behavioral changes, including mood disorders, anxiety, psychosis, and nonepileptic seizures, often occur after temporal lobectomy [1], but delusional disorders, including Capgras syndrome [2], are rare. We report a man who selectively lost emotional attachments to family members after right temporal lobectomy; symptoms persist 20 months after surgery.

2. Case report

This 50-year-old, left-handed man had a 24-year history of medically refractory epilepsy. At age 46, he underwent a right temporal lobectomy and small parietal corticectomy. He had had a small frontal gyrectomy at age 34. Intracarotid amobarbital testing revealed bilateral language dominance with severely impaired right-sided memory.

Postoperatively, he developed delusions of impending death, insisting that his wife of 20 years and his brother were hiding his true condition. He made bizarre accusations (e.g., why his wife put his pants in a certain location) and believed that people wore black because he was dying. Somatic delusions included the belief that his limbs were wasting away, which persisted despite evidence that his weight (260 pounds) and the size of his massive limbs were unchanged. Somatic and paranoid delusions largely resolved over 6 months, but accusations of family members persisted.

Surgery fully controlled the seizures. He said, “It’s a miracle to me the way I feel right now... All that stuff went away...the last 13 months I feel great...every day is my birthday.” More than a year after surgery, his wife continued to observe drastic behavioral changes: “He has totally alienated himself from me. I get home, he doesn’t get off the couch, doesn’t kiss me, watches TV.”

Before surgery, they were close and spent time together, but now he spends most of the day alone: “He is always in a room by himself...the happiest man in the world on his own island.” He eats alone and avoids leaving the bedroom until the house is empty. He rarely answers the phone and is distant when his wife calls. Sexual relations are infrequent and they no longer hold each other afterward, as he tells her to move over. He still describes her as a wonderful wife, but “does not show it.” On one occasion his wife stumbled and put her hand on his
knee to right herself, but he coldly told her not to touch him.

Emotional distance marks other family relationships. Hours before a family Thanksgiving dinner, without provocation or reason, he refused to go, saying, “I will eat franks at home.” He used to play with his 11-year-old daughter for hours but now rarely interacts with her or attends her basketball games, which had been a passion. She reports, “*this* isn’t Daddy!”

He has little insight into the problem. A long-time physician confronted him, saying “You’ll lose your family,” but he responded, “How’s my EEG, Doctor?” When his wife came home one day and told him that she was in a car accident, he said, “Be quiet, I’m watching the news.” And when his mother informed him of a cousin’s suicide, he stated, “Well, I guess he’s gone.”

He became detached from his mother, age 82, who lives upstairs. Her mental health deteriorated and at times she screamed for hours at her daughter-in-law, calling her a whore. When asked to do something, he “thought there was nothing wrong” and simply picked up the phone, flatly told his mother to call if there is a problem, and hung up. He visits his mother only to collect her laundry, rarely speaking with her.

His brother said that after surgery, their relationship changed dramatically: “his personality with us is completely different” than with strangers. The patient would visit the brother’s office for hours, but visits now last 10–15 minutes, with no emotion for his brother or nephew, previously a favorite. Yet he is effusive and jovial with an office attorney whom he knows slightly. On other occasions, the patient will cross the street to avoid the office. Symptoms of selective emotional detachment from family members persists 20 months after surgery.

In stark contrast, the patient now warms to strangers instantly. He speaks more readily and is more animated with people at the supermarket, laundry, and shoe store than with his family. However, interactions with strangers are not always positive; when his wife’s car was taken for repair, he became agitated with the mechanic, harassing him about specific aspects of the repair job and getting within a half-inch of the man’s face. Before surgery he hated the hospital, but his wife said, “it became the place with good friends...the neurosurgeon is God...it’s over the line.” He relates to familiar physicians with strong positive emotion, like strangers. The patient now greets his neurologist with a bear hug, repeating how wonderful it is to see him and clasping his hand for more than a minute.

There is no previous psychiatric history. Postsurgically, he received psychiatric treatment, including atypical antipsychotic agents and citalopram, without improvement. After surgery, neuropsychological testing revealed mild improvements in verbal abstraction and psychomotor speed, with mild declines in visual detection of contextual details and nonverbal learning. Several functions were impaired that were not tested before surgery: processing complex visual material (e.g., faces); identifying prosodic and facial emotion; lexical expression of emotion; and perception of emotional tones of voice and facial expressions. Several psychiatric evaluations found no evidence of depression on interview or assessment with Beck or Hamilton rating scales.

3. Discussion

This patient developed a postoperative dissociation of emotional responsiveness, with preserved or increased responsiveness to strangers and familiar health care workers, and a dramatic reduction in his warmth and relatedness to previously close family members. He also developed postoperative somatic and paranoid delusions. While delusions most often occur in psychiatric disorders and diffuse neurological disorders (metabolic, dementia) [3] they may also result from focal lesions, usually in the frontal lobe or right hemisphere [4].

There was a severe lack of insight into his condition. The deficit in self-awareness persists even when calmly presented by his physicians with examples of his behavior, similar to his delusions regarding his body and paranoid ideation. His lack of awareness regarding his disorder, alteration of emotional function, and delusional thoughts are also consistent with a right hemisphere lesion impairing self-monitoring, insight, and emotional functions.

The selective deficit for family members resembles Capgras syndrome [5], which consists of the delusion that familiar people (often family) are impostors or doubles. Thus, in Capgras syndrome, there is a selective change in recognition and response to family members. In contrast, other familiar individuals such as friends and co-workers are not considered doubles. Capgras syndrome is usually a purely psychiatric disorder, but it can also occur in medical and neurological disorders [6]. Neurodiagnostic studies in secondary cases usually reveal right frontotemporal pathology [7]. The underlying mechanism of Capgras syndrome remains poorly defined. Some element of prosopagnosia may contribute, with delusions resulting from left hemisphere confabulation [8], but prosopagnosia is neither necessary nor sufficient for Capgras syndrome. Hirstein and Ramachandran proposed that the Capgras delusion results from a disconnection between face recognition regions in the inferior temporal lobes and the limbic system. Conscious facial recognition thus remains intact, but the limbic-mediated arousal, including a feeling of familiarity, is lacking [9]. In our patient, a similar disconnection may permit recognition of but not elicit the normal emotional response to family members. Emotional responsiveness is paradoxically increased to more casual acquaintances. The capacity to generate strong
emotional responses to some individuals, including physicians with whom the patient is very familiar, is therefore preserved. This is consistent with a selective loss of responsiveness to a categorical group, the patient’s family.

References