Sexual Anomalies and the Brain

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Brain damage and dysfunction resulting from accidents, surgery, epilepsy, and toxic substances, among other causes, have been associated with changes in personality and behavior. One also sees changes in sexual behavior, including the first appearance of sexually anomalous or sexually deviant behaviors, such as fetishism, exhibitionism, pedophilia, and gender behavior changes (see Cummings, 1985, for a review). These clinical findings raise the hypothesis of an association between sexual anomalies in general and brain anomalies.

Gross damage to the brain may lead to changes in sexual behavior. For example, a 26-year-old male was seen in our clinic after an extremely violent attack on a young woman. He appeared to be in a constant rage and had hacked through a door with an axe to reach the woman. The sexual assault was out of character for the young man. Neurological examination revealed global degenerative brain changes, possibly associated with mercury poisoning. Such findings leave open the question of exactly what specific brain sites may have been associated with his deviant behavior. If a specific area of his brain was instrumental in his aberrant sexual behavior, it remained masked by global changes in the brain.

A more revealing case was a 28-year-old married man with no previous criminal record for sexual offences. After a heavy drinking bout, he stripped from the waist down, entered a house full of people, and attempted to sexually assault a female child. When he was strangled by the child’s father, the offender "woke up" and cooperated while the police were called. Phallometric testing of this offender suggested a conventional sexual preference for adult females. A computer tomography (CT) scan showed a large glioma on the left side of the brain, in the frontal and temporal areas. The glioma was large enough that other areas of the brain were affected, but the findings pointed to specific foci possibly associated with sexual behavior. In fact, both numerous case reports on humans and animal studies have suggested that the temporal lobes of the brain are most often linked with sexual behavior.
THE TEMPORAL LOBES AND SEXUAL BEHAVIOR

Animal Studies

Animal research long has pointed to the temporal lobes of the brain and to their associated limbic structures as sites associated with sexual arousal. The Kluver–Bucy syndrome is noteworthy. Kluver and Bucy (1939) found that removal of the temporal lobes of old world monkeys resulted in sexually indiscriminate behavior, whereby the monkeys would attempt to mate not only with available females from their own species but with animals of others species as well. The monkeys seemed “hypersexual,” a feature also seen in some human cases of brain dysfunction (see Cummings, 1985). The monkeys’ increased frequency of sexual outlet was considered “aggressive” because they sexually approached larger animals they ordinarily feared.

Work by McLean (1973) is particularly interesting because he showed that stimulation of monkeys’ brains in the diencephalic area resulted in erection, whereas stimulation a mere millimeter away resulted in the showing of fangs and aggressive behavior. This finding suggests a reason why sexual and aggressive behaviors are so commonly associated in lower animals. The finding also raises the question of a possible parallel phenomenon in humans.

Human Studies

Epilepsy

A number of studies have shown that the onset of temporal lobe epilepsy may be associated with changes in sexual behavior (Cummings, 1985; Davies & Morgenstern, 1960; Epstein, 1961; Hunter, Logue, & McMenemy, 1963; Taylor, 1969). Most often there is impotence as well as a loss of libido. However, in other cases there is an increase of libido and, for some, the appearance of anomalous sexual behavior. The unusual behavior may take a variety of forms, including bizarre behavior. Mitchell, Falconer, and Hill (1954), for example, reported a case in which an individual was attracted sexually to safety pins. Another male showed gender changes and believed he was Mary Magdalene reincarnated (see Cummings, 1985). Some cases show more common and integrated behaviors, such as homosexuality, pedophilia, or incest (e.g., Regenstein & Reich, 1978). The most common sexual behavior manifested with epilepsy is fetishism, although a wide range of sexual anomalies have been reported (see Purins & Langevin, 1985, for a review).

The systematic work by Kolarsky, Freund, Machek, and Polak (1967) highlighted the importance of the temporal lobes in the genesis of sexual anomalies. In their study, 86 patients from a neurology clinic were examined blind by sexologists for the presence of sexual anomalies. Phallicometric testing was employed in some cases. The authors found that there was a significantly greater proportion of sexual anomalies associated with temporal lobe epilepsy as opposed to other brain sites for the seizure focus. The results showed that almost