



I19 Neuroimaging Characteristics of the Brain, Skull, and Cranio-Vertebral Area of Violent Serial Sexual Offenders

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The goal of this presentation is to present findings of the neuroimaging study of serial sexual offenders.

MRI examination was conducted on 24 young male patients with a history of violent serial sexual offences (mean age: 22.4 ± 2.4 years). Pathological MRI findings have been detected in 100% of cases. Large hemisphere pathology (dilated subarachnoidal spaces and fissures, narrow and straightened subarachnoidal fissures, loss of gyral contour, abnormal gray-white matter differentiation, dilated CSF cisterns, focal pathology in a form of post-traumatic changes and cysts) was discovered in 22 (91.66%) patients. In the majority of cases (16, or 66.66%) this pathological findings were located in prefrontal areas of the brain. In 14 cases findings described above were combined with pathology of temporal lobes. Pathological findings of the ventricular system included widening, narrowing and/or pronounced asymmetry of lateral ventricles in: 17 cases and widening or prominent narrowing of the third ventricle in 17 cases. Pathology of deep brain structures included abnormalities of septum pellucidum (displacement up to 9 mm, cysts) in 15 cases, and of corpus collosum (hypoplasia) in 10 cases. Anatomic anomalies and pathological findings in cranio-vertebral bony structures were found in 20 patients (83.3%) in a form of enlargement of sphenoidal and maxillary bones, dilation of ethmoidal and frontal sinuses, small cranial fossae, hypoplasia and increased pneumatization of basic bone and reduced clivo-axial angle. Majority of the pathological findings were inborn and related to dysraphia indicating abnormal ontogenesis. Presentation will review linear measurements of outlined above pathological findings. Despite the variety of anomalous structural brain lesions, they can be organized into two groups: 1. Lesions of cortical and subcortical areas with predominant localisation in the frontal and frontal-temporal areas. Most of these lesions are localized to the right hemisphere. 2. Pathology of the limbic area of the brain, predominantly of the septal area. The nature of the majority of the described lesions is most likely dysontogenetic. They can be regarded as neuropsychiatric predisposing factors for the pathological drive to repeatedly commit brutal sexual offences.

Neuroimaging, Sexual Offenders, Violence