

Pedophilia emerging in a 64 years old pediatrician

Everyone knows what pedophilia is, but probably only few people are aware that pedophilia might also emerge anytime in life as a consequence of brain damage. Indeed, sometimes pedophilic behavior could be observed in old people with dementia or with brain tumor, people that have never manifested pedophilic urges before the disease insurgence. This is the case of JX, a 64-year-old male pediatrician that was caught while enacting sexually inappropriate behavior towards a female child in a kindergarten doctor's office. Surprisingly, paedophilic urges were carried out in a risky manner (e.g., leaving the office door wide open), thus JX was arrested and charged with pedophilia.



Fig. 1. In these images are depicted Magnetic Resonance Images showing the structure of the brain. A) Brain of a 64 years health man; B) JX brain; C) JX brain in which the tumor (Clivus Chordoma) has been circled in red for illustrative purpose.

JX had been married for over 40 years, had two children, three grandchildren and has always been a highly-respected pediatrician. However, his behavior was slowly and steadily changing. Indeed, according to his wife, easy frustration and irritability had slowly begun about two years earlier, followed by subtle behavioral dis-inhibition. For instance, while travelling with his wife, the patient would steal postcards from exhibitors in museum shops. Another example: one night, he was surfing adult pornography on the web, completely worrisless of being caught by his wife. Critically, not only his behavior changed radically, but his inner world too. Indeed, he began to manifest difficulties in catching other's emotions, he cried or laughed without any reason, he developed obsessive-compulsive behaviors (e.g. he become immoderately passionate about photography, as he produced thousand of photos each day). These changes become so severe that, upon arrest, the pediatrician appeared not to even realize the severity of the moral and social disvalue of his behavior nor its legal implications.

The legal psychiatrist and neuropsychologist consultants rapidly realized that the broad range of

symptoms manifested by JX could be perfectly explained by a dis-functioning of the orbitofrontal cortex (OFC), a brain regions that, as its name says, is located in the frontal lobe of the brain, just behind the eyes. This region is largely known by neuroscientist to be responsible of behaviors inhibition, emotions comprehension and other abilities which are supposedly to be typically human (understand what is right or wrong, what is moral or not moral). The frontal lobe dysfunction was also confirmed using neuropsychological tests. Despite the dysfunction of the frontal lobe was able to explain the majority of the deficit manifested by JX, it would not be able to fully explain the paedophilic behavior and in particular why JX become sexually excited by children. However, the presence in JX of other symptoms of brain suffering (i.e. signs suggestive of optic chiasma compression, such as tunnel vision and double vision), suggested to undertake more depth tests. So, JX underwent a Magnetic Resonance Imaging (MRI) scan, that revealed the presence of a large tumor called *Clivus Chordoma* (Fig. 1) located in the skull base. The tumor location was critical since, growing upward, it displaced the hypothalamus, which is responsible for the sexual orientation, and concomitantly compressed the OFC cortex. Thus, alteration of hypothalamus functioning resulted in abnormal sexual drives and the OFC compression account for the impairment in emotional recognition, moral reasoning and impulse inhibition. All the neurological and neuropsychological abnormalities, including paedophilic urges, receded following surgical resection of the tumor, decreeing the causal link between the tumor and the whole clinical picture, including pedophilic behavior.

Following a famous sentence “*One must demand of each and every one what he or she is capable of*”, we should ask ourselves: should JX be considered responsible for his pedophilic act? Identification of brain alterations that may potentially cause pedophilic behaviors may question the individual legal responsibility.

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