A Case Report on Cerebral Periventricular Leukomalacia and Schizophrenia

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ABSTRACT
This case is of a patient 24 years old male of Haitian-American origin, speaks English who is diagnosed with schizophrenia and cannabis use disorder. The patient had a premature delivery and the mother was not on any sort of medication during pregnancy. The first outbreak occurred in 2010 and was diagnosed with schizophrenia then. The patient is a drug addict and upon MRI cerebral leukomalacia was observed. There was no family history of such diseases and the symptoms of the patient were extremely self-damaging.

Keywords
Schizophrenia, Cerebral periventricular leukomalacia.

Introduction
This research is being conducted to find out the relationship between schizophrenia and cerebral periventricular leukomalacia. According to previous research, there have been a few instances where brain damage has been observed in cases of schizophrenia. This research is based on finding if there is any relationship in between the two diseases.

Case Presentation
The patient is a 24 year-old Haitian-American, English-speaking male diagnosed with schizophrenia and cannabis use disorder. The patient had tongue protrusion with Risperdal, leaving him...
Schizophrenia is a disorder that disrupts the way a person thinks feels and acts. Patients have difficulty in distinguishing between reality and imagination. Such problems cause difficulty for patients to express themselves in normal social conditions. It is still not clear as to what causes schizophrenia, but it is believed to be because of genetics, abnormal brain structures or chemistry or possibly due to viral infections and immune disorders. Patients feel symptoms of delusions, hallucinations, disordered thinking, speech and behavior and motor function deficits [3].

Recently by new reports, it is found out that perinatal brain damage increased the risk of schizophrenia and hence it was proposed that “schizophrenia may be more common in the increasingly large number of babies who survive very preterm birth.” There have been reports of teenagers with schizophrenia with premature birth and cerebral periventricular leukomalacia [4]. Many structural changes have also been identified in schizophrenia. One such change is the involvement of the ventricles and the decrease in cerebral volume [5]. Cerebral periventricular leukomalacia causes cognitive and visual impairment, seizures and cerebral palsy, but with recent researches, it is shown the cerebral periventricular leukomalacia causes enlargement of the ventricles and damages many brain circuits. Enlargement of the ventricles due to cerebral periventricular leukomalacia is identified as the most common marker for schizophrenia. Other problems such as auditory hallucinations and somatic delusions are observed, especially in cerebral periventricular leukomalacia. Usually, the affected lobe is the medial temporal lobe in all schizophrenics, which differ in degree from each other, but are of the same kind [6]. The structures present in the medial temporal lobe are believed to have an important role in the integration and processing of the output from the association cortex. If there is a problem with this region, then it usually leads to schizophrenia [7].

It has been commonly noted that patients suffering from schizophrenia and likely to have cerebral periventricular leukomalacia hence it is easy to believe that cerebral periventricular leukomalacia is, in fact, a cause of schizophrenia as it has been observed many times on magnetic resonance imaging [8]. However cerebral periventricular leukomalacia is not the only reason causing schizophrenia, such as genetic causes and abnormal brain development. There may still be many unknown causes of schizophrenia. In this case, the patient had a normal delivery and all developmental milestones were achieved on time, but the patient still developed schizophrenia [9]. Assuming by given history, the patient was involved in sports such as skateboarding and also martial arts such as Ninjitsu which may have resulted in hits to the head causing brain damage hence leading to cerebral periventricular leukomalacia that in turn led to schizophrenia but still causes remain unknown [10].

Discussion
Cerebral Periventricular leukomalacia is a type of brain injury that results in the death of brain tissue around the ventricles. It most commonly involves infants and is much more common in premature infants compared to mature full-term infants [1]. It is believed to be caused by changes in blood flow in the areas around the ventricles. Other causes include infection at the time of delivery. Premature babies having an intraventricular hemorrhage are at an increased risk of developing this condition. Most common symptom is spastic diplegia [2].

Schizophrenia is a disorder that disrupts the way a person thinks feels and acts. Patients have difficulty in distinguishing between reality and imagination. Such problems cause difficulty for patients to express themselves in normal social conditions. It is still not clear as to what causes schizophrenia, but it is believed to be because of genetics, abnormal brain structures or chemistry or possibly due to viral infections and immune disorders. Patients feel symptoms of delusions, hallucinations, disordered thinking, speech and behavior and motor function deficits [3].

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Conclusion
After research, it can be said that there is some relationship between cerebral periventricular leukomalacia and schizophrenia. Patients having schizophrenia are observed having schizophrenia, therefore, schizophrenia can be stated as a cause of cerebral periventricular leukomalacia or vice versa hence indicating a positive relationship between the two diseases.

References
