

Chronic Traumatic Encephalopathy

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Purpose of Study

Chronic Traumatic Encephalopathy (CTE) is a neurodegenerative disease that is caused by repeated blows to the head. It is commonly associated with contact sports such as football, hockey, and boxing, but can also be caused by military service or other forms of head trauma. This poster will explore the causes, symptoms, and potential treatments for CTE.

Background

CTE occurs when there is continued damage inflicted on the brain. CTE happens to people who repeatedly get brain trauma or injuries, especially athletes. CTE is widely known to affect athletes, mainly football players and boxers that continually get concussions and trauma to their brain.

Diagnosing CTE isn't conclusive while the person is alive. Doctors are able to use microscopes to examine samples of a person's brain which is only possible for a deceased patient. Before a person's death, a diagnosis could be made from the patient's symptoms by a physical and neurological exam. Patients' medical history of head injury are also reviewed to make the diagnosis.

Symptoms

The symptoms of CTE can be varied and may not appear until many years after the initial head trauma. Common symptoms include memory loss, confusion, depression, anxiety, and aggression. In some cases, symptoms may progress to include personality changes, difficulty with speech and movement, and dementia.

CTE Prevention

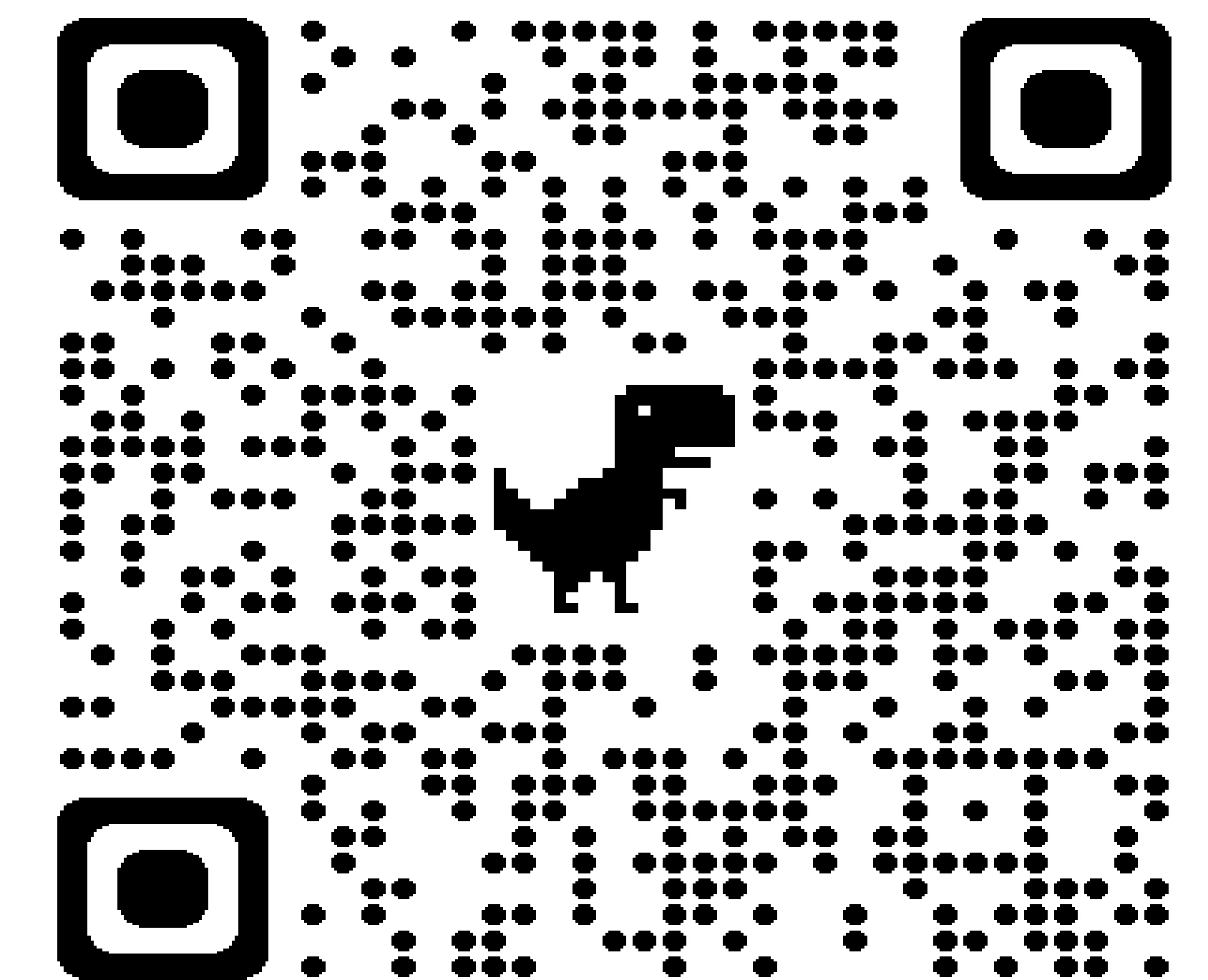
The most effective way to prevent CTE is to avoid head trauma. This may include using proper safety equipment such as helmets and mouthguards, following safe techniques for contact sports, and avoiding activities that are known to carry a high risk of head injury.

Treatment Methods and Challenges

Currently there is no cure for CTE, but medication can be given to temporarily treat behavioral symptoms and cognitive skills. There are some types of medications that contain cholinesterase inhibitors. Side effects for these medications can include nausea, diarrhea, vomiting, decreased appetite, dyspepsia, anorexia, muscle cramps, fatigue, insomnia, dizziness, headache, and asthenia. There are also atypical antipsychotics, which can have side effects including weight gain, hyperlipidemia, diabetes mellitus, QTC prolongation, extrapyramidal side effects, myocarditis, agranulocytosis, cataracts, and sexual side effects.

Data

Because CTE cannot be diagnosed until after someone dies, there is not a lot of information on how many people have it in the United States.



Conclusion

CTE is a serious and potentially debilitating disease that is caused by repeated head trauma. While there is currently no known cure for CTE, there are treatments available to manage the symptoms of the disease. Prevention is key to avoiding CTE, and individuals can reduce their risk by taking steps to avoid head trauma. Continued research into the causes, symptoms, and treatments for CTE is essential to improving outcomes for those who are affected by this devastating disease.

References

Data was obtained from:
The Centers for Disease Control and Prevention
PUBMED
WedMD
Mayo Clinic

