Role of the basal ganglia in inhibiting and promoting voluntary movements

https://www.neurodegenerationresearch.eu/survey/role-of-the-basal-ganglia-in-inhibiting-and-promoting-voluntary-movements/

Principal Investigators

Chen, RobertZhuang, Ping

Institution

University Health Network (Toronto)

Contact information of lead PI
Country

Canada

Title of project or programme

Role of the basal ganglia in inhibiting and promoting voluntary movements

Source of funding information

CIHR

Total sum awarded (Euro)

€ 146,250

Start date of award

01/01/2014

Total duration of award in years

3

Keywords
Research Abstract

Deep brain stimulation (DBS) or causing a injury to specific parts of the brain know as the basal ganglia nuclei are accepted treatments for movement disorders such as Parkinson’s disease (PD), and dystonia. Impulse control disorder (ICD) such excessive gambling, eating, shopping or sexual activities occurs in a significant proportion of PD patients and is a source of severe disability. The basal ganglia play an important role in producing and stopping movements. Very few studies examined how the basal ganglia stop movement although it is an important everyday function and relates to ICD. The proposed study is a new collaborative effort between Xuanwu Hospital of Capital Medical University (XHCMU) and the Toronto Western Hospital

(TWH). Both hospitals are centers of excellence in brain surgery for movement disorders. Patients with PD or dystonia scheduled to undergo brain surgery will be recruited. The team at XHCMU will perform recordings of single brain cell activities during surgery and the team at TWH will record brain signals that reflect activities of a large group of brain cells at 1-5 days after surgery. The subjects will perform the same “conditional stop-signal paradigm” to allow researchers to examine activities of different parts of the basal ganglia that are associated with movement and stopping of movement. The studies at the two sites nicely complement each other as the recordings at each site obtain different information. The study will address a fundamental question in neuroscience of the role of the basal ganglia in mediating wanted movements and stopping of unwanted movements. It may lead to a new way of treating PD patients with ICD and other movement disorders using DBS.

Further information available at:

Types:
Investments < €500k

Member States:
Canada

Diseases:
N/A

Years:
2016

Database Categories:
N/A

Database Tags:
N/A