

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ
КАФЕДРА ІНОЗЕМНИХ МОВ
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ
ЦЕНТР**

**МАТЕРІАЛИ
X ВСЕУКРАЇНСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ
КОНФЕРЕНЦІЇ СТУДЕНТІВ, АСПІРАНТІВ ТА
ВИКЛАДАЧІВ
ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО
ЦЕНТРУ КАФЕДРИ ІНОЗЕМНИХ МОВ**

**“WITH FOREIGN LANGUAGES TO MUTUAL
UNDERSTANDING, BETTER TECHNOLOGIES AND
ECOLOGICALLY SAFER ENVIRONMENT”**

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GLUTAMATE IMAGING MAY GUIDE SURGERY IN 'NONLESIONAL' EPILEPSY

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Glutamate imaging may be capable of identifying the focus of epileptic seizures in patients who appear to have nonlesional epilepsy on standard imaging techniques, researchers report in *Science Translational Medicine*.

The findings are based on just four patients, but the team chose to publish the results to speed wider validation of the technique, saying that it could lead to substantial improvements in the treatment of patients with drug-resistant epilepsy.

Because it is well established that patients with lesional epilepsy have better surgical outcomes than those with nonlesional epilepsy, new neuroimaging techniques capable of detecting subtle lesions could potentially improve patient care and increase the chance of seizure freedom after surgery.

The four patients, who all had temporal lobe epilepsy (TLE), had been classified as having nonlesional epilepsy based on standard, which the team says is the case for about a third of TLE patients.

In one patient, magnetic resonance spectroscopy (MRS) findings also showed increased glutamate levels in the ipsilateral hippocampus. The other three patients did not have usable MRS results, because of motion and susceptibility artefacts.

One patient underwent right temporal lobectomy, and pathological analysis showed hippocampal changes consistent with mesial temporal sclerosis.

Glutamate helps finding the epileptic foci in a specific brain region, gives clinicians critical information to guide targeted therapies that have the potential to control seizures in patients that currently do not have treatment options.