Extended Abstract | Neurological Science Journal | 2021 | Vol.5 No.2

Fluorodeoxyglucose-18-PET/CT in preoperative epilepsy our experience - Tomas Budrys - Lithuanian University of Health Sciences Clinical Hospital, Lithuania

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Aims and Introduction:
Successful surgical ablation depends on accurate localization of the epileptogenic cortex. This is important both to assure a complete resection of the epileptogenic focus and to reduce the resection volume as much as possible, limiting any potential neurocognitive deficits. To this end, patients typically undergo an intensive and extensive preoperative evaluation in combination with anatomical and functional imaging. We compared the the amount of epileptogenic foci, determine most common localizations of epilepsy focal points in both functional and structural imaging methods and determined the success rate of resection in the operated patients when the focal points of epilepsy coincided in all three imaging methods.

Methods:
14 patients underwent neurosurgical operation with removal of epileptogenic foci. Assessment of normality was verified by the Kolmogorov-Smirnov and Shapiro-Wilk tests. The Wilcoxon Signal Criteria were used to compare the two dependent samples whose data did not match the normal distribution. Concordance was evaluated by using Cohen's kappa (κ).

Results:
Ten out of fourteen patients underwent surgery and demonstrated excellent postsurgical outcomes, with no epileptic seizures 1 year or more after the operation; 3/14 patients had 1-2 seizures after surgery and 1 patient had same or more epileptic seizures in duration of 1 year or more. Most basic confinement for epileptogenic action in every one of the three techniques was worldly flap (39.6-48.6%).

Conclusion:
Careful treatment may offer high seek after patients with obstinate epileptic seizures. PET/CT are amazingly helpful imaging strategy to aid the limitation of epileptogenic zones. The dynamic useful data that mind PET/CT give is exceptionally correlative to anatomical imaging in MRI and practical data in EEG.

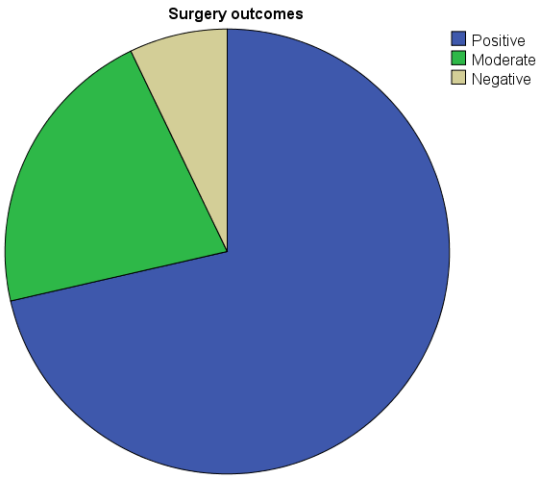

Chart 1. Fourteen patients were operated. Ten out of fourteen patients (28.6%) had excellent postsurgical outcomes, with no epileptic seizures not less than 1 year post operation; 3/14 patients had 1-2 seizures after surgery in 1-2 years post operation and only 1 patient had same amount or more epileptic seizures than before.

Recent Publications:

1.Fisher RS, Acevedo C, Arzimanoglou A, Bogacz A, Cross JH, Elger CE, et al. ILAE official report: a practical clinical definition of epilepsy. Epilepsia. 2014; 55:475–82.

2.Murray CJ, Vos T, Lozano R, Naghavi M, Flaxman AD, Michaud C, et al. Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. Lancet. 2012;380:2197–223.

3. Maganti RK, Rutecki P. EEG and epilepsy monitoring. Continuum (Minneap Minn) 2013; 19:598–622.

4.Bronen RA, Fulbright RK, Spencer DD, Spencer SS, Kim JH, Lange RC, et al. Refractory epilepsy: comparison of MR imaging, CT, and histopathologic findings in 117 patients. Radiology. 1996;201:97–105.

5. Roy T, Pandit A. Neuroimaging in epilepsy. Annals of Indian Academy of Neurology. 2011;14(2):78-80.