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LEVETIRACETAM SHOWED LOWER DEPRESSION, INSOMNIA AND MOOD INSTABILITY INCIDENCE THAN PHENYTOIN AFTER SUPRATENTORIAL TUMOUR NEUROSURGERY

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Background: Phenytoin used to prevent seizures linked to brain cancer neurosurgery has shown many undesirable side effects and drug interactions with chemotherapy.

Aim: To evaluate the incidence of depression, insomnia, mood instability and early post surgery seizures, after Phenytoin (PHE) vs. Levetiracetam (LEV) monotherapy in patients with brain tumour subjected to a supratentorial brain tumour resection.

Methods: A prospective study in patients with supratentorial cancer diagnosis subjected to neurosurgery of resection was done. Patients were consecutive randomized to be treated with PHE (n=26) 15 ml/kg IV-bolus, 125 mg/8 h IV x48 h, 100 mg/8 h O x7 days or with LEV (n=34) 500 mg/12 h IV x48 h, 500 mg/12 h O x 7 days. Clinical, histological, TAC, EEG, seizures and undesirable side effects were analyzed.

Results and discussion: 60 patients (53% male, aged 52.5±20 years) with glioblastoma multiform 45%, meningioma 43%, Ewing's sarcoma 6.7%, others 5.3% (size between 3-6 cm, in the right brain site-65.2%, in the frontal lobe-56.2%) were subjected to followed for a week after tumour resection. Undesirable side effects (USE) were (%LEV/%PHE): total (7.3%/31.5%), somnolence (0%/32.8%), headache (6.1%/22.3%), dizziness (0%/25.6%), difficulty with coordination (0%/23.5%), depression (6.2%/18.7%), lack of energy/strength (12.5%/33.8%), insomnia (11.3%/37.9%), mood instability (12.5%/22,6%), leukopenia (0%/16.9%) after surgery (p< 0.05). None of the patients taking Levetiracetam vs. 4 of the patients taking Phenytoin (0% vs. 15.3%) had seizures after surgery (p < 0.05).

Conclusion: Levetiracetam showed lower depression, insomnia, mood instability and seizures incidence than Phenytoin after supratentorial tumour neurosurgery.