

Heart and blood pressure adverse effects of phenytoin

Phenytoin is an effective antiepileptic drug which is used for many years in the treatment of epileptic seizures. Whereas its oral form is used for the long-term treatment of epilepsy, the intravenous form - the injection into the veins - is administered in acute situations such as persistent seizures (status epilepticus). Status epilepticus is a life-threatening emergent state that need prompt intervention. In previous decades, several patients experienced adverse effects of intravenous phenytoin such as severe heart arrhythmias and decrease of blood pressure. These potential adverse effects caused a reluctance to use intravenous phenytoin which has also led to a search for safer antiepileptic drugs. In this review, we aimed to evaluate the safety of phenytoin with respect to heart and blood pressure adverse effects.

All original clinical trials and case reports listed in internet databases in English language between the years of 1946-2014 were evaluated. All adverse effect related to heart and blood pressure, the dose and infusion rate of intravenous phenytoin, age and co-existent diseases of patients were evaluated.

In the case reports, a rapid infusion rate (>50mg/min) of phenytoin appeared as the major cause of increased mortality. In contrast, no serious heart and blood pressure adverse effects leading to death were met in clinical trials which applied the recommended infusion rate and dosages. An infusion rate of 50mg/min was reported to be safe for young patients. For old patients and patients with a heart disease, a slower infusion rate was recommended with a careful follow-up of heart rhythm and blood pressure.

In summary, intravenous phenytoin is an affective and well tolerated drug in the treatment of epilepsy when given at recommended infusion rates and doses.

Baburhan Guldiken^{1,2}, Jan Rémi¹, Soheyl Noachtar¹

¹*Department of Neurology, Epilepsy Center, University of Munich, Munich, Germany*

²*Neurology Department, Trakya University Medical Faculty, Edirne, Turkey*

Publication

[Cardiovascular adverse effects of phenytoin.](#)

Guldiken B, Rémi J, Noachtar S

J Neurol. 2015 Dec 8