

## البحث الأول

### **The possible role of neuron specific enolase and neurofilament light protein as markers for Organophosphorus-induced neurotoxicity.**

**Authors:** Ahmed S. El-Sayed, Ghada M. El-Galad, Mahmoud L. Sakr,  
Amro A. Saleh

**Indian Journal of Forensic Medicine & Toxicology, 2021, 15(3):  
1963–1975.**

#### **Abstract**

**Background:** Acute organophosphorus (OP) poisoning is a common toxic emergency all over the world especially in the developing countries as Egypt. Neurological damage occurs after exposure to these compounds can lead to respiratory failure and death. Thus, it is important to identify the severity of poisoning and predict the need to ventilation support or death.

**Methods:** A prospective study that included 50 adult patients presented with neurological manifestations after acute OP poisoning admitted to the ICU of Poison Control Center of Ain shams university (PCC-ASU), and 25 healthy volunteers. Measuring levels of Neuron Specific Enolase (NSE) and Neurofilament Light (NFL) protein and correlate this with severity according to APACHE II score and outcome of patients.

**Conclusion:** There was a significant difference between cases and controls among levels of NSE and NFL protein, also there was a significant correlation between NSE and NFL protein levels and prediction of both M.V. need and mortality, so NSE and NFL protein can be used as markers for neurological damage after exposure to OP compounds.

**Key Words:** APACHE II score, Neurofilament Light Protein, Neuron Specific Enolase, Neurotoxicity and Organophosphorus.