

## Special Issue

# Lipid Emulsion and Other Treatment in Drug Toxicity

### Message from the Guest Editor

Lipid emulsions, originally created for parenteral nutrition, are now extensively utilized to treat systemic toxicity caused by local anesthetics. Several supportive treatments are used to treat drug toxicity. In addition, the non-specific guanylate cyclase inhibitor, methylene blue, is used to treat vasoplegic shock. The mechanism of lipid emulsion resuscitation involves both indirect and direct effects. The indirect effect, known as the lipid shuttle, involves the lipid emulsion binding to the toxic drug with high lipid solubility, thereby extracting it from the brain and heart, and transporting it to the liver, adipose tissue, and muscle for detoxification and storage. The direct effects include providing an inotropic effect, supplying fatty acids, inhibiting mitochondrial dysfunction, reducing nitric oxide release, and promoting glycogen synthase kinase-3 $\beta$  phosphorylation. For this Special Issue, we invite research papers that report both positive and negative outcomes related to the use of lipid emulsions and other treatments in treating systemic toxicity induced by local and nonlocal anesthetic drugs.

### Guest Editor

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