Aims & Scope:
Gamma-hydroxybutyrate (GHB) is a potent central nervous system depressant, used as a recreational drug of abuse. It is quite frequently found in forensic investigations of subjects alive or dead. GHB in the form of sodium salt is a registered therapeutic agent approved of by some countries in treating narcolepsy-associated cataplexy and is an adjuvant medication for detoxification and withdrawal in alcohol abusers. GHB is endogenously produced and traces can be found (0.5-1.0 mg/L) in various tissues, including the brain, where it functions as both a precursor and a metabolite of the major inhibitory neurotransmitter γ-aminobutyric acid (GABA). Information available indicates that GHB serves as a neurotransmitter or neuromodulator in the GABAergic system, and in particular via binding to the GABA-B receptor subtype.

Taking into account the dual nature of this compound, endogenous and exogenous, various points need to be clarified and this special issue aims to focus on them, trying to provide the most updated scientific evidence in this field.

Moreover, the role of new GHB metabolites, such as GHB-glucuronide (GHB-Gluc) and the sulfonated metabolite of GHB (GHB-SUL) and their detection window in biological samples, with particular emphasis on alternative matrices, will be given for forensic purposes, especially in cases of drug facilitated sexual assault (DFSA), and clinical purposes both in the short and long-term monitoring of patients under sodium oxybate treatment.

Key words:
Gamma-hydroxybutyrate (GHB), pharmacokinetics and pharmacodynamics, GHB-glucuronide (GHB-Gluc), sodium oxybate, clinical application, alcoholism, narcolepsy-associated cataplexy, conventional and alternative biological matrices, gamma-butyrolactone (GBL) and 1,4-butanediol (BD), drug facilitated sexual assault (DFSA), forensic toxicology.
Subtopics:
1. Pharmacokinetics and pharmacodynamics of GHB
2. Distribution of GHB in the body fluids and tissues
3. Sodium oxybate and narcolepsy
4. Alternative sources of GHB: gamma-butyrolactone (GBL) and 1,4-butanediol (BD).
5. Sodium oxybate therapy for the treatment of alcohol withdrawal syndrome (AWS) and the maintenance of alcohol abstinence
6. GHB related fatalities
7. Pharmacogenetics and GHB response
8. GHB neurotoxicity
9. GHB and GABA in sleep disorders

Schedule:
Manuscript submission deadline: 30 September 2016
Peer Review Due: 20 October 2016
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Final manuscripts publication: 15 December 2016

Manuscript proposals and submissions should be sent directly to: fra.busardo@libero.it