Sugammadex as a reversal agent for neuromuscular block: an evidence-based review.

Sugammadex is the first clinical representative of a new class of drugs called selective relaxant binding agents. It has revolutionized the way anesthesiologists think about drug reversal. Sugammadex selectively binds rocuronium or vecuronium, thereby reversing their neuromuscular blocking action. Due to its 1:1 binding of rocuronium or vecuronium, it is able to reverse any depth of neuromuscular block. So far, it has been approved for use in adult patients and for pediatric patients over 2 years. Since its approval in Europe, Japan, and Australia, further insight on its use in special patient populations and specific diseases have become available. Due to its pharmacodynamic profile, sugammadex, in combination with rocuronium, may have the potential to displace succinylcholine as the "gold standard" muscle relaxant for rapid sequence induction. The use of rocuronium or vecuronium, with the potential of reverse of their action with sugammadex, seems to be safe in patients with impaired neuromuscular transmission, ie, neuromuscular diseases, including myasthenia gravis. Data from long-term use of sugammadex is not yet available. Evidence suggesting an economic advantage of using sugammadex and justifying its relatively high cost for an anesthesia-related drug, is missing.